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CONTENTS

	Page
The Rice Sector in the Economy of British Guiana C. O'Loughlin	115
Adjustment Patterns among the Jamaican Chinese Andrew W. Lind	144
Expenditure Patterns, Kingston, 1954 G. E. Cumper	165
Hindu Marriage Customs in British Guiana R. T. Smith and C. Jayawardena	178
Notes on Depreciation David Walker	195
Rejoinder to Professor Walker H. D. Huggins and E. R. Chang	199
Research Note Robert L. Aronson	201
Book Reviews P. Sargant Florence	203
Notes on Contributors C. O'Loughlin	207

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Pag

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Page 136, line 7: for page . . read page 124.

Page 191, line 43: for page 5 para. 2, read page 182, para. 2.

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The Rice Sector in the Economy of British Guiana

By

C. O'LOUGHLIN.

PART I

RICE PRODUCTION, MILLING AND MARKETING

Introduction

Some industries, more than others, are likely to be the subject of governmental concern, whether it be direct participation or economic planning and policy making. Such an industry is the rice industry in British Guiana. It is the largest user of land, it employs a larger number of people than all but one other industry (although much of this employment is on a casual basis); rice is the biggest small farm product, it is an important item of basic consumption in the country, and it is an important export. Unlike sugar and bauxite there are no large companies co-ordinating production and marketing. Institutions have however developed to fill this gap and there is a Rice Producers' Association designed to safeguard the interests of producers. Marketing has been centralized through the Rice Marketing Board, in which producers, millers, consumers and government interests are represented. Where interests conflict, government may be called on to be an impartial referee between producers and consumers, and in any case, much development planning by government must necessarily involve the rice industry, both directly and indirectly. This paper has thus been prepared to answer the need for further information on the economic structure of the industry. Most of the information collected was also used for the national income survey of British Guiana being undertaken at the same time, and the first part of this paper incorporates a detailed analysis of the "rice sector" in national income terms. The second part presents the tabulated results of a costing survey of 91 rice farms which was undertaken also to fill in a gap in information necessary for the national income study.

This paper is by no means a comprehensive treatment of the rice industry. A commodity study on West Indian rice would entail a detailed analysis, not only of production conditions in British Guiana, but of market conditions in the other West Indian territories, of local production in the other territories, of world supplies and prices, transportation of rice and projections of the likely changes in the regional demand, should living standards rise. Such a study would go much further than the present paper can go in providing the information required by government and others respon-

NOTE: B.W.I. dollars (4/2d.) are used throughout this paper.

sible for planning for the industry's future. Some of the problems facing these authorities are listed below.

(a) Can British Guiana rice remain a competitive seller to West Indies markets? Clearly at certain market prices it may be cheaper for the West Indies territories to import Far Eastern rice. If British Guiana costs of production increase, West Indies territories may consider it to be worthwhile to encourage their own farmers to grow the crop. Information which can help to elucidate this problem will include studies of costs of production of rice and the size of the profit margin.

(b) Closely linked with the above question: How flexible are costs of production in British Guiana? Information on production economies in different regions, or different sized farms, and with different methods of cultivation, can assist in showing in what way costs of production can be lowered.

(c) Should long-term economic planning and government investment be geared to an expansion of the rice industry? For the present the government appears to be firmly committed to an expansion of the industry, and a considerable part of development expenditure is going to provide drainage, irrigation, and land clearance with a view to rice cultivation. The immediate need for such action results from the lack of alternative employment for British Guiana labour, which shows itself in the form of land-hunger on the part of rice farmers and their families. It is perhaps pertinent to ask however whether such a policy is, in the long run, likely to further significant economic development? Can rice production, as a major national industry, ever provide the regular employment and high average levels of income which are two of the main objectives of economic development? If it is admitted that rice production is unlikely ever to be a high standard of living industry, should not capital expenditure be geared to providing other outlets of employment rather than the expansion of rice?

This paper does not claim to answer these important questions but simply to set out some of the facts which may assist planners in considering them.

Marketing of Rice

The British Guiana Marketing Board is the sole purchaser of rice in the country; all rice for export and local sales is marketed through the Board. Farmers are permitted however to keep enough of their own rice for their domestic use and to keep padi for seed and stock feed (the value of this "subsistence" element evaluated at growers' prices is shown in Account III).

Account I shows in summary form the transactions of the Rice Marketing Board for four years. It will be noted that on average export sales account for 76 per cent of total sales. The export market is thus of the highest importance to the industry.

British Guiana exports rice to all the territories of the British West Indies. In 1956 the quantity of rice sold contractually and non-contractually to the various territories was as follows (1):

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TABLE 1. EXPORTS OF RICE FOR YEAR ENDING SEPTEMBER 30TH, 1956
(Long Tons)

	Contract	Non-contract	
		Packaged	Bulk
<i>British West Indies</i>			
Barbados	7,840	33	40
Trinidad	17,994	420	
Jamaica	7,147	1,776	
Antigua	1,486	1	
St. Kitts	1,412	17	14
Dominica	421	1	
Grenada	1,461	5	
St. Lucia	643	5	
Montserrat	112	—	—
St. Vincent	750	—	—
Tortola			2
<i>Other Territories</i>			
Surinam			356
Curacao		1	6
Ship Stores		2	45
	39,266	2,261	463

Although British Guiana occupies the position of main rice seller to West Indian markets and is the only large exporter in the region, her bargaining position is weakened by (a) the possibility that buying territories may find it more economic to grow more of their own rice, or may even for social reasons protect their own rice growers against imports, and (b) prices on the world market, which have allowed British Guiana only a narrow competitive margin in West Indian markets, even when the cost of freight from Far Eastern ports is taken into consideration.

In 1954, following a conference in Trinidad, the governments of the Eastern Caribbean group of territories entered into an agreement with the Rice Marketing Board under which their total import requirements were to be covered for the two-year period ending December 31, 1956. Jamaica entered into a separate agreement with the Board covering her import requirements for the period January 1, 1955 to December 31, 1957.

Before the expiry of the agreement, the British Guiana government started negotiations towards the long-term acceptance of the principle that the regions' rice requirements should be met from within the region, thus giving British Guiana a more secure market. The item was discussed at a meeting of the Regional Economic Committee in December 1955 and strong recommendations were made that regional consumption needs should be met wholly from production within the region. At this meeting, strong pressure from the buying territories secured a small reduction in price.

This and subsequent price negotiations have been carried out much in the atmosphere of the horse market. In spite of pressure from British Guiana and from the Regional Economic Committee that the matter be considered on the basis of mutual co-operation within the region, no formal long-term agreement has been achieved. Bargaining points have been fully used. British

Guiana's position has thus been much the same as that of any producer of commodities selling on an openly competitive world market. Thus cost flexibility is of the utmost importance to the industry.

Both Government and the Rice Marketing Board have been very conscious of the need to improve the industry and lower costs of production. Assistance to growers with mechanization and advice on improved methods of cultivation have been part of their policy. More recently the Board has acquired a re-milling machine and by further milling, some of the rice delivered at the Board can be regraded. The market for high quality rice is likely to be stronger than that for average and poor rice and it is aimed to increase the proportion of the higher grades. Packaging of top grade rice has also been introduced and this is important, particularly in the Jamaican market, which however still imports packaged rice from the U.S.A. In 1956 and 1957 Trinidad and Barbados have imported bulk rice from foreign suppliers in small quantities, but this was to meet a shortfall in British Guiana supplies rather than for any consideration of price.

Account I shows, in summary form, the transactions of the Rice Marketing Board for four crop years. Figures for four years have been shown because fluctuations due to variations in harvests are fairly wide (as can be seen from the total receipts figure) and one year's figures would thus be somewhat misleading.

On the expenditure side, rice purchases are divided into two parts, purchases from farmers and purchases from millers. In certain districts of British Guiana, particularly in the East Coast, farmers sell their padi to the millers. Millers thus act as dealers as well as processors of farmers' grains. In such cases the farmers transact only with the millers, who buy the padi and sell the milled rice to the Board. In the remaining cases farmers pay the miller a fee for milling the padi into rice, which remains the farmer's property until it is sold to the Rice Marketing Board. The owner of the rice must pay a carrier's fee for transportation to the Board's store. This of course varies according to distance but averages about 40 cents per bag of rice.

The item of expenditure "transfers to producers" includes grants and net lending and losses on the provision of storage and supply of machinery to growers.

General operating expenditure has not been broken down for the years in question, but in 1956 this item of expenditure was distributed broadly as follows: administrative charges 15.58 per cent, warehouse expenses 57.83 per cent, interest 6.79 per cent, miscellaneous (including insurance, packaging, pension plan etc.) 16.80 per cent.

Rice Milling

In 1957, there were 208 rice millers operating in British Guiana. Of these 2 were central mills owned and operated by the Rice Development Company, a government-sponsored company. The capacity of the mills, other than the Rice Development Company's mills, is shown in the following table.

TABLE 2. SIZE OF RICE MILLS

	Number in group
Less than 2,000 bags* padi per annum	40
2,000 - 5,000	45
5,000 - 10,000	58
10,000 - 15,000	32
15,000 - 20,000	19
20,000 and over	12
	206

* One bag padi = 140 lbs. net

The two government mills milled 300,694 bags of padi in the year ending August 31st, 1956 (2). This accounted for approximately 17 per cent of total milling. One of the mills, owned by this company (that at Anna Regina) was operated at a substantial loss over the first four months of this year, in order to provide milling facilities for local farmers and to maintain supplies to the British Guiana Rice Marketing Board. During the year however, this old mill was replaced by a more modern one which operated more efficiently. The second company mill, that at Mahaicony, operated at a small loss for this particular year, which was however influenced by the bad harvest of autumn 1955 which resulted in the mill operating at an uneconomically low rate of production.

Most small mills are inefficient producers and it was originally considered that the quality of rice can only be raised if more of the larger type mills, such as those operating at Mahaicony and Anna Regina be installed. More recently it has been found possible to instal multi-stage milling equipment in smaller mills, thus proving that high quality rice can be produced by the smaller miller. A scheme has been suggested, however, whereby the whole colony, with the exception of a few minor areas, be served by up-to-date larger mills, which would be capable of producing white rice. Many small millers would suffer losses of business if this was achieved, but some form of compensation has been envisaged.^a Another matter which requires attention if export grades are to be raised is the improving of storage facilities both for padi and rice and thus preventing deterioration during storage.

Most small millers are engaged in lines of business other than rice milling. They are frequently rice farmers themselves and often own rice lands and let them out to tenant farmers. Millers are frequently owners of transport facilities, they may operate a store, and they quite often engage in the money-lending business. From this it will be clear that the economic relationship between the farmer and the miller is not necessarily as simple as is suggested by Account II. The accounts aim, however, to isolate those activities con-

^aIn 1956 the British Guiana Rice Development Company with the approval of Government, commissioned Sir Archibald Cuke of Barbados to prepare a scheme of compensation for rice millers who voluntarily agree to close their mills at the request of the company. The report was completed and submitted to the company in 1957 (3).

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cerned with rice production and distribution; thus income and expenditure relating to other activities is excluded. The aggregate account for rice milling is based on information obtained from the Rice Marketing Board on quantity of rice milled and average mill fees and on estimates of the quantity of padi actually purchased by millers. The expenditure pattern is derived from operating accounts furnished by ten mills. Clearly the figures give a general picture only of the transactions of this sector.

Mill fees varied slightly from district to district, but the average per bag of rice for the whole country was \$1.80 in 1953 and \$2.00 in 1956. In certain districts, particularly in Berbice, it was found that farmers provided mill labour themselves when bringing their padi to be milled. Mill fees were thus lower and the farmers received the difference as a kind of hidden "wage". This was not found to be a widespread practice in other areas however. An estimate has been made of the value of this service which has then been subtracted from the millers' account and transferred to the farmers' account.

Rice Growing

The Agricultural Department's survey of 1955 showed that there were in the colony 22,156 rice growers and a seeded area of 139,500 acres. This was divided between the counties as follows: Berbice 12,018 growers and 63,300 acres, Demerara 5,657 growers and 52,300 acres, Essequibo 4,481 growers and 23,900 acres. The number of farms in each size group is shown in the following table. Farms are classified by size of rice acreage, not by total size of farm (3).

TABLE 3. NUMBER OF FARM UNITS

Size Group	Berbice	Demerara	Essequibo	Total
Under 2 Acres	4,229	1,363	832	6,424
2 - 3.9 Acres	5,119	1,182	1,245	7,546
4.0- 7.9 "	4,383	1,869	2,283	8,535
8.0-15.9 "	1,365	1,269	944	3,578
16.0-31.9 "	207	388	31	626
32 Acres and Over	35	229	10	274
	15,338	6,300	5,345	26,983

The figures in the above table relate to the autumn crop 1954. In some cases growers owned more than one distinct farm unit; hence the difference in totals as between "growers" and "farm units".

The consolidated Account III presents in summary form the transactions of the rice-growing sector of the community. Here, as with millers, other economic activities of the household have been excluded and only the rice transactions are shown. The items on the receipts side were derived mainly from information given by the Rice Marketing Board and from the Agricultural Department's survey (4). The figures on the expenditure side are based mainly on the pattern of costs found to obtain in the sample of farms for which a costing survey was undertaken (described in the final part of this paper). The sample was blown up in districts and size groups, while

ACCOUNT III. CONSOLIDATED CURRENT TRANSACTIONS ACCOUNT FOR RICE GROWING

	RECEIPTS (\$000)					EXPENDITURE (\$000)				
	1953	1954	1955	1956		1953	1954	1955	1956	
Sales Rice to R.M.B.	6,931	8,741	9,756	8,670		1,793	2,416	2,550	2,257	
Sales Padi to Millers	1,741	2,231	2,478	2,005		1,120	1,210	1,433	1,319	
Consumed at Home:										
Feed and Seed	1,315	1,892	1,505	1,440		-	150	-	200	- 180)
Consumed at Home: Food	1,862	2,280	2,198	1,999		914	1,020	1,220	1,069	
Change of Stock on Farms	- 634	- 54	25	- 314		1,693	2,115	2,180	2,056	
Grants and Transfers from Government and R.M.B.	869	278	234	534		505	560	600	750	
						278	300	325	325	
						413	420	460	450	
						1,674	2,271	2,391	2,315	
						240	225	260	220	
						3,604	5,031	4,977	3,753	
	12,084	15,368	16,196	14,334		12,084	15,368	16,196	14,334	

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allowance had to be made for districts which were unrepresented. The figures were then compared with national accounts results from other sectors which have transactions with rice farmers. Thus although the totals depended on a certain amount of estimating, some checks were available.

Although farmers' "imputed" wage from assisting with milling their own padi has been deducted from mill fees and added to the surplus, no imputation has been made for "wages" paid to family labour, which is therefore, of course, included in the surplus. The individual items of expenditure are discussed in more detail in the last part of this article.

ACCOUNT IV. TRANSACTIONS OF RICE MARKETING BOARD, MILLERS AND GROWERS:
(ANNUAL AVERAGE OF 1953-1956)

RICE MILLS					
Receipts			Expenditure		
	\$	%		\$	%
9 Sales Rice (5)	2,994	64.9	12 Wages	633	13.7
10 Mill Fees	1,271	27.6	13 Fuel	353	7.7
(Less Farmers' Work			14 Other Purchases	173	3.8
in Mills	-182	-3.9)	15 Transportation	254	5.5
Stock of Padi and Rice	527	11.4	16 Repairs and Miscel- laneous Services	238	5.2
			17 Padi Purchases	2,114	45.8
			18 Stock	503	10.9
			19 Surplus	252	5.5
			Depreciation	90	1.9
	4,610	100		4,610	100
RICE MARKETING BOARD					
Receipts			Expenditure		
	\$	%		\$	%
1 Local Sales	3,092	23.8	3 General Operating		
2 Export Sales	9,914	76.2	Expenses	1,061	8.1
			4 Paid to Farmers for		
			Rice	8,524	65.7
			5 Paid to Millers for		
			Rice	2,994	23.0
			6 Transfers to Producers	271	2.0
			7 Transfers to Reserve	173	1.3
			8 Stock Adjustment	-17	-0.1
	13,006	100		13,006	100
RICE FARMERS					
Receipts			Expenditure		
	\$	%		\$	%
20 Sales Rice to			26 Wages	2,254	15.5
R.M.B. (4)	8,524	58.8	27 Mill Fees (10)	1,270	8.8
21 Sales Padi to Millers			(Less Farmers' Work		
(17)	2,114	14.6	in Mills	-182	-1.2)
22 Consumed at Home:			28 Transportation	1,056	7.3
Feed and Seed	1,538	10.6	29 Hire-Work and Repairs	2,011	13.9
23 Consumed at Home:			30 Rent	604	4.2
Food	2,085	14.4	31 Rate and Taxes	307	2.1
24 Change of Stock on			32 Interest	436	3.0
Farms	-244	-1.7	33 Other Goods and		
25 Grants and Transfers			Services	2,163	14.9
from Government			34 Depreciation	236	1.6
and R.M.B.	479	3.3	35 Surplus	4,341	29.9
	14,496	100		14,496	100

It is however, important to note that both the expenditure items "wages" and "hire work and repairs" include payments made in cash within the rice growers sector. Farmers may pay each other for assistance; particularly it was found that farmers possessing tractors or other machinery would hire it out, often operating it themselves, to other growers. Besides the surplus, therefore, part of these items will make up the income of farmers. Taking the surplus alone it is interesting to compare this figure with the total evaluation of food, feed and seed. It will be noted that the surplus only allows for a very small cash income (for 1955 and 1956 averaging about \$75 per farm), after this non-cash income has been deducted.

One of the main problems of rice growing in British Guiana is the uncertainty of weather conditions. Normally a main crop is harvested in autumn, and in some areas a dropseed or transplanted crop is harvested in spring. In a dry spring, this latter crop may fail altogether. In the autumn of 1955, flooding seriously reduced the padi crop, causing total losses to some farmers. In 1957 a prolonged drought reduced the spring crop substantially and affected the autumn crop. Farm incomes are thus subject to wide fluctuations, and in some areas individual farmers may make a fair profit in one year, only to be faced with total loss in the next.

As can be seen from Table 3 rice is cultivated mainly by small farmers. The majority are of East Indian extraction. The only grower of rice on a large scale is the government-sponsored Rice Development Company. This Company carries out large-scale cultivation of rice on an experimental basis between the Mahaicony and Abary rivers. There is an empoldered area of 12,000 acres, of this 2,600 acres is cultivated mechanically. Part of the remaining area is allocated to individual farmers, who are able to benefit from advice and facilities offered by the main estate. The scheme started in 1953. It also includes the mills at Mahaicony and Anna Regina, mentioned in the last section (2).

The Rice Sector as a Whole

Account IV shows the transactions of all three groups in this sector: farmers, millers and Marketing Board. The figures are an average for the four years 1953-56, and do not thus represent accounts for any one particular year. Certain items are entered twice on Account IV as they are intra-sector transactions. These are items 4 and 5 (purchases of rice by Rice Marketing Board), item 10 (mill fees paid to millers by farmers) and item 17 (sale of padi by farmers to millers). Item 25 includes item 6 (grants and transfers from Board to producers). Item 25, however, also includes transfers from government to producers.

From these accounts we can abstract those items which form part of the gross national income. These items include wages, salaries and profits attributable directly to the rice industry. The items excluded are of course those expenditures paid to other sectors. Landowners renting land to rice farmers

are included as a part of the rice industry, as are lenders of money at interest to rice farmers. The expenses of landowners and lenders must however be deducted before their incomes are added to the total of gross income.

On the rice farmers account it is considered that 40 per cent of the item "hire work and repairs" is income received by participants in the rice industry. This 40 per cent includes payments made to other farmers and labourers for operating machinery, the other 60 per cent includes payments to the "engineering and repairs" sector of the economy and the expenses of operation of the hired machinery.

The rice income items are as under (average for four years):

TABLE 4. GROSS INCOME FROM RICE

	\$ 000	\$ 000
<i>Rice Marketing Board:</i>		
Salaries and Wages	750	
Surplus and Depreciation	156	
	906	906
<i>Millers:</i>		
Wages	633	
Surplus (adjusted for stock change)	276	
Depreciation	90	
	999	999
<i>Farmers and Landowners:</i>		
Wages	2,254	
Hire Work (40% of total hire work)	603	
Net Rent (75% of gross rent)	453	
Net Interest (89% of gross interest)	375	
Surplus and Stock Change	4,097	
Depreciation	236	
	8,018	8,018
		9,923

The gross national income from rice production is thus estimated on average, for the four years, at approximately \$10 million. The Gross Domestic Product at factor cost for the whole British Guianese economy is estimated at approximately \$206 million for 1956. The share of the rice industry is thus approximately 5 per cent of the Gross Domestic Product. This is a very small part of the national income and indicates that in view of the large numbers employed in rice at some time or other, the earnings are shared out very thinly over those involved. The estimate also indicates that the value significance of rice industry is extremely small as compared with the significance in the political and social fields.

Not all of this \$10 million is distributed as personal income. It is of course highly likely that farmers did not create depreciation funds to the extent stated in the table. It is however assumed that the following items are transferred to capital account. Surplus and depreciation of the Rice Marketing Board \$156,000, depreciation by millers \$90,000 and depreciation by farmers \$236,000, totalling \$482,000. This leaves approximately \$9 million estimated as distributed income.

This \$482,000 saved by the industry gives no indication of the amount of capital formation in the industry as the latter is a heavy net borrower from other sectors and much of the expenditure made by government in drainage and irrigation through grants must be considered as investment in the rice industry. The results of this examination suggest that the industry would find it almost impossible to serve this investment had it been in the form of loans to the industry, requiring interest payments.

Other industries which benefit directly from the rice industry, in that they owe much of their income and employment to the rice industry, are (a) transportation (particularly water transportation) (b) importers of machinery, parts and fuel and bags, and (c) the repair industry, including people who are not growers themselves but who hire out machinery to growers.

PART II

ECONOMIC SURVEY OF 91 RICE FARMS

Survey Method

This costing survey was carried out with the co-operation of the British Guiana Department of Agriculture.* Owing to the risks involved in using inexperienced enumerators, who may not be familiar with farming conditions, it was decided to limit the number of farms enumerated to a number which could be visited by agricultural officers in the regions concerned. The survey included 130 farms, but in the final tabulation it was decided to omit the schedules for one county (Essequibo), as insufficient detail had been enumerated.

The farms were sampled within strata. As far as possible strata were selected with reference to the representativeness of groups in the total population. Thus, initially, over half were to be small farms of less than 10 acres. The omission of the Essequibo farms, which were nearly all small, meant there was finally a rather higher proportion of larger farms than was intended. The areas selected were in Berbice (three areas, which have been amalgamated in the tabulation) and in Demerara, (the East Coast district and the West Coast districts). These, with Essequibo islands, constitute the main rice-growing areas of British Guiana.

Owing to the small size of the sample it was not possible to include farms in all size groups, for each area. In West Coast Demerara for instance, the number of large farms is very small, so the sample concentrated on farms below 40 acres. Most of them were in fact below 10 acres.

Sampling was done by taking a sampling fraction $1/n$ of the complete list of farms and visiting every n^{th} farm on the list. It was however recognized in one case that it would not be justified to send the enumerator to

*The enumeration was directed by Mr. W. Asfour, Agricultural Economist to the British Guiana Government.

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one very inaccessible farm, and the next one was substituted. In one area it is believed that a small degree of selection took place. For instance, the enumerator, receiving no co-operation from one farmer, substituted one he knew to be co-operative. This however was not felt to have been done on a significant scale.

The number of farms tabulated, in size group and district is shown in Table 5.

TABLE 5.

Rice Acres	Berbice	East Coast Demerara	West Coast Demerara	Total
0-9.9	7	14	18	39
10-49.9	15	10	7	32
50-99.9	6	4		10
100 +	2	8		10
Total	30	36	25	91

The farms selected have an undue bias towards larger farms as compared to the proportion of larger farms in the total population. Over half the farmers in British Guiana grow less than 5 acres of rice. This group of small farmers, although producing a small part of the total value of rice, are significant in terms of employment, and are a group in the economy which has particular problems and which has always been considered to be depressed compared with other groups in the economy. If, therefore, a further survey is undertaken, it is suggested that it should be concentrated on this group. Particularly as the results for the present survey indicate that the actual profit per acre, and as a proportion of sales, is higher in the 0-9.9 acre-group than on larger farms. In view of the smallness of the sample, this result needs confirmation from a further study of small farms.

The farms were visited during February and March of 1957, and the information requested was for the 1956 autumn crop. Expenditures relate to the actual expenditures on rice cultivation and harvesting during the crop period, which on most farms was seven-eight months. A second visit was made in May to farms expecting to harvest a spring crop for 1957. Owing to dry conditions the spring crop was very poor during this year and few schedules were completed for this crop. The data in the main tables applies only to the autumn crop. "Overheads", such as rent and maintenance, have been adjusted to the crop period.

Rice Costing Results

Accounts V (a-c) show total income and expenditure for rice cultivation on 91 farms, income and expenditure per acre, and expenditure and surplus expressed in percentages.

On the receipts side it will be noted that in the East Coast Demerara district, farms sold padi to millers and did not sell rice. In other districts very little padi was sold. Column 6 relates to stocks on hand at the date of enumeration; these stocks, of either rice or padi, related only to the autumn crop,

ACCOUNT Va. Totals: RICE EXPENDITURE

1	District and Size (Acres)	2	No. of Farms	3	4	5	6	7
				Rice Acres	Padi	Sales and Rice	On Hand	Used On Farm
								Sub-Total 4 - 5 - 6
East Coast Demerara								
0-9.9		14		46	2,139		669	1,329
10-49.9		10		181	9,163		414	808
50-99.9		4		210	7,876		638	1,236
100 - +		8		722	26,652		1,954	3,948
West Coast Demerara								
0-9.9		18		95	240	11,020	827	1,321
10-49.9		7		81	904	6,332	304	750
Berbice								
0-9.9		7		29	126	1,185	1,472	684
10-49.9		15		237	471	13,450	4,325	1,770
50-99.9		6		343	900	21,378	3,580	2,022
100 - +		2		244		2,226	18,529	2,340
Total		91		2,188	48,471	55,591	32,712	16,208
								152,982

ACCOUNT Va (Cont'd.)

1	District and Size (Acres)	Seed, Fert., Spray	8	9	10	11	12	EXPENSES (\$)								19	20	21
								Trans- port	Sub-Total 8-13	Gross Profit	Maint- enance	Deprecia- tion	Inter- est	Rates Taxes	Rent			
East Coast Demerara																		
0-9.9		275	931	728	68			2,002	2,135	509	46	167	215	294	Cr:	904		
10-49.9		867	730	4,085	1,180			6,862	3,523	833	271	895	190	1,669	Dr:	335		
50-99.9		1,077	4,216	1,822	883			7,998	1,752	844	420	407	273	430	Dr:	622		
100 - +		3,310	4,308	9,293	4,875			21,786	10,768	9,147	1,443	1,444	64	76	Dr:	1,406		
West Coast Demerara																		
0-9.9		313	3,415	1,165	413	1,199	243	6,748	6,660		95	223	100	290	Cr:	5,952		
10-49.9		211	3,766	429	197	901	107	5,611	2,679	382	162	315	118	252	Cr:	1,450		
Berbice																		
0-9.9		99	796	490	208	143	56	1,792	1,675	902	29	22	156	171	Cr:	395		
10-49.9		903	7,028	2,206	2,560	1,034	412	14,143	5,873	1,633	395	1,073	1,395	683	Cr:	694		
50-99.9		1,260	3,758	5,034	4,688	1,648	880	17,268	10,612	8,983	686	1,233	2,610	3,772	Dr:	6,672		
100 - +		253	2,044	42	6,184	1,678	662	10,863	12,232	13,124	488	246	165	200	Dr:	1,991		

ACCOUNT Vb. RICE EXPENDITURE PER ACRE (CONT'D.)

1	District and Size (Acres)	EXPENDITURE (\$400)													18	19	20	21
		Seed, Spray	Fert.	Labour	Hire	Others	Mill Fees	Trans- port	Sub-Total 8-13	Gross Profit	Maint- enance	Deprecia- tion	Inter- est	Rates				
East Coast Demerara	0-9.9	5.97	20.24	15.83	12.26	4.35	12.62	2.56	71.03	70.10	1.00	2.35	1.05	3.05	Cr:	62.65		
	10-49.9	4.79	4.03	22.57	5.30	2.43	11.12	1.32	69.27	33.07	4.72	2.00	3.88	1.46	3.11	Cr:	17.90	
	50-99.9	4.20	5.13	20.08	8.67	6.75												
	100 - +	4.58	5.97	12.87					30.17	14.92	12.68	2.00	2.00	0.09	0.10	Dr:	1.95	
	Average per 1 acre	3.29	35.95	12.26	4.35	12.62	2.56	71.03	70.10		1.00	2.35	1.05	3.05	Cr:	62.65		
West Coast Demerara	0-9.9	2.61	46.49	5.30	2.43	11.12	1.32	69.27	33.07	4.72	2.00	3.88	1.46	3.11	Cr:	17.90		
	10-49.9	3.41	27.45	16.90	7.17	4.93	1.93	61.79	57.76	31.10	1.00	0.76	5.38	5.90	Cr:	13.64		
	50-99.9	3.80	29.65	9.31	10.81	4.36	1.74	59.67	24.78	6.89	1.66	4.53	5.89	2.88	Cr:	2.93		
	100 - +	3.67	10.96	14.68	13.66	4.80	2.57	50.34	30.94	26.19	2.00	3.59	7.61	11.00	Dr:	19.45		
	Average per 1 acre	1.04	8.38	0.17	25.34	6.88	2.71	44.52	50.13	53.78	2.00	1.01	0.68	0.82	Dr:	8.16		

ACCOUNT Vc. RICE FARMS: EXPENSES AS PER CENT OF SALES

			RECEIPTS					EXPENDITURE												
1, 2	3	4	5, 6, 7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
District and Size (Acres)	No. of Farms	Rice Acres	Sales and Home Use	Seed, Fert. Spray	Labour	Hire	Other	Mill Fees	Trans- port	Sub-Total 8-13	Gross Profit	Maint- enance	Deprecia- tion	Int- erest	Rates Taxes	Rent	Net Profit			
East Coast Demerara	14	46	4,137	100	6.65	22.51	17.59	1.64		48.39	51.61	12.30	1.12	4.04	5.20	7.11	Cr: 21.84			
0-9.9																				
10-49.9	10	181	10,385	100	8.35	7.03	39.34	11.36		66.08	33.92	8.02	2.61	8.62	1.83	16.07	Dr: 3.23			
50-99.9	4	210	9,750	100	9.06	11.04	43.24	18.69		82.03	17.97	8.66	4.31	4.17	2.80	4.41	Dr: 6.38			
100 - +	8	722	32,554	100	10.17	13.23	28.54	14.98		66.92	33.08	28.10	4.43	4.44	0.20	0.23	Dr: 4.32			
West Coast Demerara	18	95	13,408	100	2.33	25.47	8.69	3.08	8.95	1.81	50.33	49.67	0.71	1.66	0.75	2.16	Cr: 44.39			
0-9.9																				
10-49.9	7	81	8,290	100	2.54	45.43	5.17	2.38	19.87	1.29	67.68	32.32	4.61	3.80	1.42	3.04	Cr: 17.49			
Berberie	7	29	3,467	100	2.86	22.96	14.13	6.00	4.12	1.62	51.69	48.31	26.02	0.82	0.63	4.50	4.93	Cr: 11.41		
0-9.9																				
10-49.9	15	237	20,016	100	4.52	35.11	11.02	12.78	5.17	2.06	70.66	29.34	8.16	1.97	5.36	6.97	3.41	Cr: 3.47		
50-99.9	6	343	27,880	100	4.82	13.48	18.06	16.82	5.91	3.12	61.94	38.06	32.32	2.61	1.42	8.76	13.53	Dr: 23.93		
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The items tabulated in columns 8-17 are items of expenditure directly applicable to the autumn rice crop. Those headed 20-23 are expenditures on farm maintenance, rent, depreciation, interest, and rates and taxes. The gross profit is derived by subtracting items 8-17 from gross receipts. The net profit is then reached by subtracting the "overhead" items from gross profit.

Gross profit per acre shows a definite bias towards higher profit on smaller farms. Owing to high costs of maintenance and depreciation on large farms the difference is even greater in net profit. The two most profitable groups are the two groups in West Coast Demerara.^a These farms are characterized by relatively high yields per acre, relatively high yields of rice of good grade, a high labour intensity per acre and relatively low overheads. Hired tractor ploughing was done on about half the farms in the second group, but otherwise cultivation was unmechanized. It must also be borne in mind that the 1956 autumn crop cultivation period was an abnormally wet one, and such conditions tended to favour manual rather than mechanized cultivation. A number of the farms in West Coast Demerara group, were recent settlements under a government-sponsored scheme. These farms enjoyed relatively good drainage and reasonable rental conditions.

Table 6, showing labour use, indicates that considerably more family labour per acre is used on smaller farms. This would have a tendency to reduce expenses and increase surplus on such farms, as no wage has been imputed for family labour.

^aFor a detailed description of the economic organization of farms in this district see R. T. Smith (5).

new machinery in use and depreciation rates over the first few years are very high. Most of these problems are likely to be overcome with experience, and as drainage is improved.

Columns 9 and 10 on the expenditure side are to some extent substitutes. Some farmers hired machinery or oxen and ploughs, with operators, whilst others may have paid labour to use their own implements or in some cases machinery. Labour was often paid by the task, but these tasks were adjusted to a per day basis (see Table 6). In some cases the borderline between hire work and paid labour was not clearly defined, where for instance the farmer contracted to hire a gang of labour, with perhaps, simple implements, through a labour contractor. Hire work was, however, carefully defined on the schedules as "Hire of machinery, with or without labour and inclusive of the labour hired with the machinery."

The overall conclusion which may be drawn from these figures is that the margin between receipts and expenditure is small and does not allow for drastic reductions in price. The figures suggest that larger, more mechanized farms are experiencing some difficulty covering running and overhead costs, but this may be due to insufficient utilization of machinery, high initial costs, lack of knowledge on use and maintenance, and poor drainage. The smaller farms are keeping down cash outgoings by a higher utilization of unpaid family labour. Receipts include a much higher proportion of "non-cash income" in the form of food and feed, on smaller farms than on larger farms. The results must be treated with caution, however, as the number of farms in each sub-group is small and a sampling bias may be considerable. There are obvious shortcomings inherent in this kind of survey, which depends so much on information given by parties who may have imagined that their interest was best secured by giving a certain answer. Nevertheless the broad pattern of outgoings and the general tendencies discerned in the results are of value; the large degree of uniformity between the farms in each group also leads one to believe that the sample is of a fairly representative nature.

Labour Use and Wages

Information was obtained from each farm on labour use and wages paid. All figures were expressed in man days and rates per day, subdivisions being made for men, women and boys, and for days worked by paid labour and by operators and own family. Table 6 shows number of days worked in each operation and the average per acre, in terms of operator and own family and paid labour. There is a reasonable amount of consistency in these figures from farm to farm, but as has been pointed out, "hire work" was often substituted for labour, and there was no way to express it in a comparable man days equivalent. Table 6 shows, as would be expected, a greater use of family labour per acre on the smaller farms; there is also a tendency for more women per acre to be employed on small farms. In West Demerara female labour seems slightly more important than in other districts. Female labour is lowest in Berbice larger farms.

TABLE 6. MAN DAYS PER ACRE

District and Size (Acres)	Ploughing			Cultivation			Harvesting			Total	Acres	No. of Farms
	Men and Boys	Women		Men and Boys	Women		Men and Boys	Women				
East Coast Demerara												
0-9.9												
Paid Labour Operator and Family Total	1.8 8.5 10.3	.4 .6 1.0		.7 3.8 4.5	2.6 1.6 4.2		3.0 2.9 5.9	.7 1.5 2.2		5.5 15.2 20.7	3.7 3.7 7.4	
10-49.9												14
Paid Labour Operator and Family Total	.3 2.8 3.1	.2 3.4 3.6		.2 1.5 1.7	- .7 .7		.8 1.7 2.5	.3 .9 2.5		1.3 6.0 7.3	.5 4.7 5.2	
50 and over												10
Paid Labour Operator and Family Total	.3 .3 .6	.1 - .1		.2 1.1 1.3	- - -		1.1 1.3 1.4	- .1 .1		1.6 .7 2.3	.1 1.1 .2	12
West Coast Demerara												
0-9.9												
Paid Labour Operator and Family Total	1.3 4.3 5.6	1.5 .5 2.0		1.4 1.0 2.4	4.3 1.1 4.4		2.8 1.4 4.2	7.9 - 7.9		5.5 6.7 12.2	13.7 .5 14.3	18
10-49.9												
Paid Labour Operator and Family Total	3.4 2.0 5.4	3.9 - 3.9		2.2 1.0 3.2	6.1 6.1 6.1		3.0 .9 3.9	8.0 - 8.0		8.6 3.9 12.5	18.0 - 18.0	7
Berbice												
0-9.9												
Paid Labour Operator and Family Total	1.2 3.8 5.0	- - -		.6 4.1 4.7	4.7 1.9 6.6		2.8 2.7 5.5	3.5 4.6 8.1		4.6 10.6 15.2	8.2 3.0 11.2	7
10-49.9												
Paid Labour Operator and Family Total	1.3 1.5 2.8	- - -		1.1 1.1 2.2	3.3 1.1 3.4		2.6 1.0 3.6	4.6 .3 7.7		5.0 3.6 8.6	6.7 .4 7.1	15
50 and over												
Paid Labour Operator and Family Total	.4 2.1 2.5	- .1 .1		.2 1.5 1.7	.7 .7 .7		1.3 1.6 2.3	1.2 - 1.2		1.3 4.2 5.5	1.9 .1 2.0	8

Wages paid, expressed on a per day basis, are shown in Table 7. Berbice has been divided into three districts for this purpose, Western Berbice, New Amsterdam area and upper Corentyne. There appears however to be little variation in the rates paid in these three districts, except that there is a slightly lower rate for men's work in the New Amsterdam district. The difference between Demerara and Berbice is very great however. The general rate for men in Berbice is about \$3 and in West Coast and East Coast Demerara appears to be \$2.50. Women's rates are considerably below men's rates and do not appear to vary very greatly from district to district.

Income from other activities

Other crops grown on the rice farms visited were coconut, provisions, vegetables, fruit, eggs and milk. On the whole, where these products were grown for cash sale, they tended to be concentrated on a few farms. A number of farms grew no other products either for cash sale or home use. The distribution is shown in Table 8 below:

TABLE 8. NUMBER OF FARMS GROWING PRODUCTS.

	Cash and Non-Cash	Non-Cash only
Coconuts	19	14
Provisions	11	10
Vegetables	13	15
Citrus	2	7
Other Fruit	12	13
Milk	29	9
Eggs	32	24

TABLE 9a. NON-FARM INCOME OF FARM HOUSEHOLDS (\$)

District and Size (Acres)	Number of farms	Income from:					Total
		Wages	Hire Work	Shops	Property	Other	
East Coast Demerara							
0-9.9	14	1,000	173				1,173
10-49.9	10	2,088	563	284	220	1,170	4,325
50 +	12	1,200	545	400	768	1,360	4,273
West Coast Demerara							
0-9.9	18						
10-49.9	7	385					385
Berbice							
0-9.9	7	250	114				364
10-49.9	15	1,350	657	188	486		2,681
50 +	8	1,690	683	350	960		3,683

Tables 9 and 9a show total income received during the crop period by each size group from these other crops and from other activities than rice growing. It will be noted that there was some area specialization, coconuts predominating in East Coast Demerara, more provisions and vegetables being sold in Berbice. In West Coast Demerara, a number of farms sold milk, but little else was produced. This area seemed to have very little income from non-farm activities. The larger farms in East Coast Demerara and Berbice show

TABLE 7. AVERAGE WAGE RATES PER DAY (\$)

	Ploughing		Harrowing		Clearing		Broadcasting		Threshing		Cutting		Transport	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
New Amsterdam	2.93		2.85		2.50	1.35	3.03	1.64	2.96	2.20	3.00	2.40	3.03	
Western Berbice	3.00		2.93		3.00		3.00	1.47	3.00	2.00	3.00	2.40	3.00	
Upper Corentyne	3.00		2.98		3.00		3.10	1.50	3.38		3.00	2.25	3.40	
East Coast Demerara	2.08		2.00		2.63	1.67	2.64	1.50	3.02	1.50	2.56	1.56	2.56	1.75
West Coast Demerara	2.50		2.50		2.51	1.18	2.50	1.22	2.67	1.38	2.54	2.00		

TABLE 9. NET INCOME FROM FARM PRODUCTS OTHER THAN RICE (\$)

District and Size (Acres)	Number of Farms	Coconuts	Provisions	Vegetables	Citrus	Other fruit	Milk	Eggs	Other products	Total
East Coast Demerara										
0-9.9	14	188	34	339	4	503	253	157	—	1,478
10-49.9	10	150	140	119	—	128	80	21	—	638
50 +	12	750				7	725	6	—	1,488
West Coast Demerara										
0-9.9	18	4	—	—		—	665	34	—	703
10-49.9	7	3	—	—		—	331	23	—	357
Berbice										
0-9.9	7	30	60	15	1	120	57	68		351
10-49.9	15	501	92	24		14	220	20		871
50 +	8	295	500	200		—	621	57	605	2,278
Non Cash Income (Quantities evaluated at growers' prices)										
East Coast Demerara										
0-9.9	14	120	200	—	1	116	322	252		1,011
10-49.9	10	50	358	40	10	166	200	150		974
50 +	12	10	30	92	—	11	422	160		725
West Coast Demerara										
0-9.9	18	2	—	—	—	—	347	40		389
10-49.9	7	1	—	—	—	—	180	15		196
Berbice										
0-9.9	7	220	100	50	1	450	114	150	—	1,085
10-49.9	15	800	170	310	30	209	1,170	720		3,409
50 +	8	410	56	147	—	422	640	301		1,976

the greatest income from other activities, amongst which the hiring out of machinery is important.

Table 10 shows the net farm income from all the activities of the farm household; this covers the crop period, averaging seven months. Certain reservations need to be made regarding these figures.

(a) The net farm income from rice is almost certainly low (as was pointed out on page . . .). This is particularly so of larger farms and it is estimated that one of the main reasons is the assessing by farmers of too high an amount for "overhead" items, particularly maintenance. The maintenance of machinery, roads, buildings, kokers and other equipment could have cost the amount stated if they had been highly maintained, but it is believed that had profit been as low as that shown in these accounts, much maintenance would have gone in arrears. Also it is believed that any bias to overstate expenditure would be more marked on larger farms. Some of these farmers may have had to make tax returns and would be more wary than the smaller farmer in giving accurate information.

In spite of these reservations, it is believed that the net rice income could not be substantially higher than that shown, and that on the whole, net income as a percentage of sales (including home-consumed rice and padi) is very low as compared with most crops grown in British Guiana (the comparison is however weakened somewhat by the limited number of other crops grown on any significant scale in the country).

(b) The net income shown in Table 9 relates to the crop period only (seven months). As far as the other activities are concerned it is reasonable to suppose that the average income for a year would be proportionately higher. As far as rice is concerned however this period constituted the total annual period of operations for all but a few farms. Only 18 of these farms harvested a spring crop in 1957 and 17 were in the West Demerara district. A number of farms in the West Demerara district cultivated a spring crop but did not harvest it owing to drought. The losses of these farms are set against the profits of the 18 which were successful in harvesting a spring crop, with the following results:

TABLE 11. FARM RESULTS FOR SPRING CROP, 1957 (\$)

District and Size (Acres)	Receipts and Home Use	Expenditure on Rice	Gross Profit on Rice
East Coast Demerara 10-49.9	114 (1 farm)	196 (1 farm)	182 (1 farm)
West Coast Demerara 0-9.9	3,764 (13 farms)	2,919 (15 farms)	642 (15 farms)
10-49.9	2,550 (4 farms)	1,808 (4 farms)	642 (4 farms)

These figures show only gross profit; no allocation of overhead has been made against receipts, and it appears, however, that the expenses against the spring crop are rather lower than those of the autumn crop. The spring crop thus produces a fairly important addition to annual income on farms in West

TABLE 10. TOTAL NET FARM INCOME DURING CROP PERIOD. (\$)

District and Size (Acres)		Net Income from Rice (Including Non- Cash)	Net Income Other Products		Net Income Other Activities	Total Net Income per Farm Household 7 Months
			Cash	Non-Cash		
East Coast Demerara	14 Farms per Farm	904 65	1478 106	1011 72	1173 84	327
	10-49.9	-335	638	974	4325	560
	50 +	-34	64	97	433	371
	12 Farms per Farm	-2028 -169	1488 124	725 60	4273 356	
West Coast Demerara	18 Farms per Farm	5952 331	703 39	389 22	- -	392
	10-49.9	1450	362	196	385	342
	7 Farms per Farm	207	52	28	55	
Berbice	7 Farms per Farm	396 57	321 46	1085 155	364 52	310
	10-49.9	696	861	3409	2681	509
	8 Farms per Farm	46	57	227	179	3683
	50 +	-8663 -1083	2278 284	1976 247	3683 460	-92

TABLE 12. LAND USE ON 91 FARMS (Acres)

District and Size (Acres)	Rice		Temp. Idle and Others		Pasture		House, Provisions and Fodder Plot		Unimproved	
	Own	Rented	Own	Rented	Own	Rented	Own	Rented	Own	Rented
East Coast Demerara										
0-9.9	19	27	9.1	1.5	5.0	—	3.3	1.1	—	—
10-49.9	58	123	17.0	9.5	37.7	—	5.0	4.1	18.0	1.5
50-99.9	140	70	26.3	20.0	37.3	10.5	4.9	—	—	—
100 - +	597	125	362.0	—	943.4	250.0	7.6	—	—	26.0
West Coast Demerara										
0-9.9	43	52	3.0	4.0	—	—	2.2	—	—	—
10-49.9	42	39	—	—	12.0	—	0.2	—	—	—
Berbice										
0-9.9	15	14	5.4	—	0.3	5.0	1.0	0.4	—	—
10-49.9	131	106	40.4	—	16.0	—	12.5	—	23.1	—
50-99.9	60	283	25.0	1.0	13.0	5.0	4.5	7.2	41.0	40.0
100 - +	220	24	—	—	188.0	—	22.7	—	75.0	—
Total	1325	863	488.2	36.0	1252.7	270.5	63.9	12.8	157.1	67.5

TABLE 12a. TENANCY, SOIL AND DRAINAGE

District and Size (Acres)	Acres Rented	Tenancy		Total Rent†	Rent† Per Acre	Soil			No. of Plots	Drainage Acres		
		No. of Farms	Freehold			Light	Heavy	Mixed		Good	Fair	Poor
East Coast Demerara												
0-9.9	29	5	9	554	19.1	2	7	5	29	22	19	24
10-49.9	93	3	7	1,387	14.9	2	2	6	23	15	111	118
50-99.9	100	2	2	577	5.7	1	—	3	6	11	100	198
100 - +	151	3	1	1,022	6.8	1	3	4	14	917	303	1,092
West Coast Demerara												
0-9.9	52	6	11	590	11.3	—	—	18	23	77	13	5
10-49.9	39	1	4	588	15.1	1	—	5	10	126	30	—
Berbice												
0-9.9	15	4	3	230	15.3	3	—	5	16	13	18	7
10-49.9	83	10	2	1,023	12.3	6	6	3	43	153	81	99
50-99.9	336	2	3	5,138	15.3	3	2	—	17	253	64	93
100 - +	24	1	—	240	10.0	1	—	1	4	260	64	106
Total	922	37	42	13,349	12.3				185	1,847	803	1,742

†Amount of rental is expressed in dollars.

Demerara, whose rice profits are highest and income from other activities is lowest.

(c) The third reservation which needs to be made regarding the farm income Table 3 is that, although a surprising amount of information regarding non-farm earnings was given, it is believed that this was in fact understated. These earnings relate to members of the family resident on, and partly dependent on, the farm, but it is believed, that, apart from additional earnings of the operator, contributions from other members are understated.

Land Use and Tenancy

Land use is shown in Table 12; unimproved land was not taken into consideration when classifying farms by size, but has been entered in this table. Each type of land use is shown under acres owned and acres rented.

Table 12a shows tenancy conditions. Of the 92 farms 37 were freehold, 42 were rented and 13 farms worked both their own land and land which was rented; 12 farms, mainly in West Demerara were on government leases. In East Coast Demerara, it was common to find rent fixed in terms of the yield, or paid in bags of padi; 10 farms were rented on this system. Leases were generally for a year; one large farm in Berbice was on a seven years' lease. During 1956 a considerable number of the rents were raised, some to double the rent of the previous years. Under recent legislation, landowners are permitted to charge a rent which covers certain outgoings such as drainage rates and interest on improvements, and allows them a small profit. Landowners have tended to bring rents up to the maximum chargeable under this system. Little information can be gained on rentals and tenancy from a sample of rented farms as small as this, but it is a subject requiring a separate study. It is certain that insecurity of tenure, uncertainty regarding titles, and in some cases burdensome rents are a restrictive influence in British Guiana, not only in rice production, but perhaps more particularly in preventing development of other crops of a longer maturing type such as coconut, coffee and cocoa.

Few holdings were consolidated into one plot. Consolidation was commonest in West Demerara where 21 of the 26 farms were single plot farms, and fragmentation was greatest in Berbice where only 2 of the farms were consolidated. Of the 91 farms 35 were single plots, 33 were in two plots, 14 were in three plots, 8 in four plots and one in eight plots. There was thus a total of 183 plots altogether.

Rents in the West Demerara district varied greatly. Of the 18 farms on which all or part of the land was rented 11 were on government leases. The rent on these varied from \$6.00 to \$9.20 per acre per annum. On the private estates rent varied between \$17.00 and \$32.00 per acre. In nearly every case the private rents were raised 100 per cent during 1956, but were subsequently reduced after settlement by the Assessment Committee.

The classification of drainage into poor, fair and good, necessarily left a good deal to the enumerator's judgment, although attempts to arrive at a common standard were made.

100 - +	24	1	-	13	11,349	12.3	10.0	1	-	1	4	260	64	106
Total	922	37	42	13	11,349	12.3	10.0	1	-	1	4	260	64	106
† Amount of rental is expressed in dollars.														
	922	37	42	13	11,349	12.3	10.0	1	-	1	4	260	64	106
												1,847	803	1,742

TABLE 13 (a). CAPITAL EXPENDITURE DURING CALENDAR YEAR 1956 (\$)

District and Size (Acres)	Land Improvement	New Buildings	Tractors and Combines, etc.	Implements	Vehicles	Other	Boats	Net addition to Livestock
East Coast Demerara								
0-9.9	1,487	3,572		109	120	396	—	1,264
10-49.9	424	635	2,949	385		482	54	432
50-99.9	2,400	550	3,200	52		375	—	124
100 and over	7,371	4,230	—	136		2,876	155	3,940
West Coast Demerara								
0-9.9	—	—	—	—		86	128	45
10-49.9	—	100	3,700	10		34	33	— 80
Berbice								
0-9.9	725	4,100	—	101	273	17	—	96
10-49.9	2,845	1,890	5,900	345	790	973	199	2,109
50-99.9	1,380	5,000	14,370	486	420	1,565	90	— 870
100 and over	190	—	7,600	751	—	145	—	1,166
	16,822	20,077	37,719	2,375	1,603	6,949	659	8,226

TABLE 14. CREDIT: ORIGINAL LOAN AND AMOUNTS OUTSTANDING AT DATE OF VISIT TO FARM (\$)

District and Size (Acres)	Co-operatives			Stores			Sellers of Equipment			Miller			Landlord			Bank			Private			Mortgage (house or land)			No. of farms owing indebted
	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing	Original loan	Still owing			
East Coast Demerara																									
0-9.9	1,251	732	142	142	—	—	—	—	137	37	—	—	—	—	—	—	—	—	75	75	6,670	4,770	6		
10-49.9	4,265	3,660	654	471	5,000	500	213	213	213	162	162	—	—	—	—	—	—	—	360	360	19,400	17,900	11		
50-99.9	—	—	—	—	2,100	800	1,250	920	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1		
100 and over	650	450	1,301	1,201	5,642	2,742	—	—	—	—	—	—	—	—	8,000	8,000	4,500	4,500	28,100	17,225	8				
West Coast Demerara																									
0-9.9	1,920	1,822	—	—	—	—	60	60	—	—	—	—	—	—	—	—	—	—	—	—	16,880	13,570	10		
10-49.9	570	300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6,260	5,360	4		
Berbice																									
0-9.9	1,325	1,225	1,036	1,024	—	—	150	65	—	—	—	—	—	—	240	100	1,000	1,000	—	—	—	—	4		
10-49.9	3,430	2,937	670	650	4,300	2,300	142	142	82	82	82	10,450	5,060	5,200	2,756	13,300	11,200	11	—	—	—	—	11		
50-99.9	1,460	1,310	110	10	6,395	6,265	300	300	—	—	—	1,680	1,480	—	—	—	—	—	—	—	3,960	3,710	5		
100 and over	—	—	1,540	1,540	—	—	2,000	2,000	—	—	—	—	—	—	7,000	4,000	—	—	—	—	—	—	1		

Farm Assets

Table 13 shows farm assets on a per acre basis. Larger farms have more machinery, and for this reason machinery and implements per acre increase. On the other hand, as economies of scale are obtained the opposite tendency takes place. This accounts for some fluctuation in the figures as between size groups. As would be expected the value of land and buildings on a per acre basis decreases with size of farm. The values are based on farmers' estimates except for land value, when in a few cases the enumerator's estimate differed slightly from the farmer's estimate and this was taken.

TABLE 13. ASSETS PER ACRE AT DECEMBER 31st, 1956

District and Size (Acres)	Land Value	House and Buildings Value	Implements Value
	\$	\$	\$
East Coast Demerara			
0-9.9	238.6	224.7	14.6
10-49.9	150.2	85.2	51.3
50-99.9	158.5	86.3	90.8
100 and over	61.7	35.4	31.8
West Coast Demerara			
0-9.9	253.3	267.5	5.3
10-49.9	199.6	111.2	47.5
Berbice			
0-9.9	217.8	245.7	18.2
10-49.9	253.8	275.6	49.6
50-99.9	78.5	67.7	60.9
100 and over	291.0	19.8	77.9
Average of Total Acreage:	123.9	71.8	44.0

Table 13a shows the value of additions to assets during the calendar year 1956. This is actual purchase value, which partly accounts for the high ratio which new assets bear to total assets in some of the bigger farm groups. Mechanization has however been speeded up considerably during the last year or two. Both these tables show the West Coast Demerara farms to be the least mechanical.

Credit

Information given on farm indebtedness was fairly comprehensive. Farmers were more co-operative than was to be expected. Considerably more was owed to landlords than is shown in table 14, as arrears of rent were not entered unless they had been outstanding for over a year.

Rates of interest have not been entered in table 14 as averages for a group would in some cases be misleading. The following rates prevailed: On loans to co-operatives and the B.G. Credit Corporation loans were usually at 5 or 6 per cent. Indebtedness to stores was not stated to carry interest, although it may have been recovered by charging higher prices to debtors. Similarly debts to millers and landlords did not carry interest. Certain farmers said the miller had made them some advances in money or kind which would be deducted when he bought their padi. Short-term debts of this kind to millers are probably understated in the table. Sellers of equip-

ment on hire-purchase terms usually charged 8-12 per cent. Bank Interest was 8 per cent, and part of the item "mortgages" is owing to banks, although the exact amount was not stated. Private loans varied from the loan from a relative, on which no interest was charged, to loans from private money lenders generally carrying 11 or 12 per cent and in one case 20 per cent interest. Mortgages with credit organizations usually carried 5 or 6 per cent, bank mortgages 8 per cent and there were a few private ones from 8 to 15 per cent.

The pattern of lending shows both institutional and private lending to be most highly developed in Berbice. West Demerara showed fewer sources of credit, but loans appeared to be cheaper in this district, owing to the greater activities of co-operatives and other institutions. Assuming correct information to have been given, in only two farms was interest a significant burden (i.e. constituting more than 12½ per cent of farm expenses). One was a large farm in East Demerara which had contracted debts for machinery and improvements but which made a small profit. The second was a farm of four acres in the same district which appeared to be in danger of bankruptcy. Only two cases of interest exceeding 12 per cent were recorded.

Conclusion

Warning must again be given against drawing too general conclusions from these figures which relate to a small number of farms and for one rice crop season only. Nevertheless certain broad trends may be observed.

Firstly, although farm profit is probably understated it appears that it is certainly low relatively to that for most tropical crops and there is little room for price falls unless costs of production can be drastically reduced.

Secondly, although profit per farm is higher on larger farms, profit per acre is higher on smaller farms. This is to some extent due to the wider use of unpaid family labour on the latter.

Thirdly, although in this sample, mechanized farms seem to be making poor profit owing to the burden of overheads, this is seen rather as "teething troubles" in the mechanization process. Better drainage, better knowledge of machinery and a fuller utilization of machinery could make mechanization more profitable.

Fourthly, as between districts, West Demerara (which is least mechanized, has less non-rice sources of income, but has the advantage of better drainage, and on many farms, lower rents) appears to make a higher surplus per acre than either East Demerara or Berbice. This would be even greater if the spring crop was added. It is felt that East Demerara farmers suffer some loss from the policy of selling padi rather than rice. Further investigation should be made of this factor, particularly as an increase in centralized milling may lead to wider adoption of this practice.

Fifthly, although other sources of income were probably understated, there was a significant difference in farm net income when other activities were undertaken. Coconut and dairy products could in nearly every case be sold

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at a profit which was a greater percentage of sale value than that on rice.

Sixthly, as regards credit facilities, although a few farmers complained of not being able to obtain loans, it is significant that institutional lenders (including banks) lending at relatively low interest rates were much more important lenders to these farmers than private lenders. It would be interesting to compare this position with the situation about ten years ago, if figures were available. It can safely be said that institutional sources of credit have increased greatly during this period.

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Adjustment Patterns Among the Jamaican Chinese

By

ANDREW W. LIND

I

The preponderance in numbers and influence of persons of Negro or part-Negro descent and the dominant status of the Europeans has given to Caribbean social research an apparent preoccupation with the changing social structure of these two groups and with the shifting relations between them (33). This is certainly to be expected and is undoubtedly as it should be, but it may have had the effect of restricting such studies unduly within the geographical context extending "from Brazil to the United States" (33). One need not contest the significance of purely historic and geographic factors in the social evolution of the Caribbean area, without also recognizing the growing importance of influences which are world-wide in character.

It is particularly the study of the transcendent forces emanating from the spread of Western industrialism into any and all of the so-called underdeveloped regions of the world which appears now to hold the greatest promise for the arrival at the tested generalizations essential for social science. Robert E. Park, one of the American social scientists to pioneer in this approach to the analysis of social change in the colonial regions of the world, suggested more than thirty years ago that only a world-wide perspective would suffice as a frame of reference within which to define the problems of race and culture contacts in any part of the earth (32), and it is by way of further examination of this hypothesis — although not its exhaustive testing — that the present paper has been conceived.

Briefly stated, Park held to the thesis that the dynamic qualities inherent in all trading economies have been multiplied many-fold as a consequence of the industrial revolution and that the modern world is witnessing in greatly exaggerated form and over a much vaster area the mingling of cultures and races which once gave to the Mediterranean its civilizing role in the ancient world. Park further developed the theory of a race relations cycle — "that the forces which have brought about the existing interpenetration of peoples are so vast and irresistible that the resulting changes assume the character of a cosmic process" — that "in the relations of races there is a cycle of events which tends everywhere to repeat itself". The phases in this cycle, which were assumed to be essentially the same as those which operate universally in every society, include the widely quoted processes of competition, conflict, accommodation, and assimilation. Park himself was clearly less con-

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cerned about establishing the validity of a theoretical race-relations cycle than he was to provide a perspective and a point of departure for the systematic study of what actually happens in specific situations when races and cultures meet. It was, in fact, while engaged in the study of the experience of Oriental minorities on the Pacific Coast of America that the conception of the race-relations cycle apparently emerged in his own thinking, and he subsequently sought to encourage others to test this theory or to develop others, by the analysis of numerous different situations in all parts of the world. Although the concepts used by Park in his theory of a universal race-relations cycle have figured prominently in sociological writing, there have unfortunately been relatively few of the intensive, systematic studies necessary to establish the validity of the theory.

The adjustment of Oriental immigrant groups within the Caribbean had virtually escaped the attention of social scientists working in the area until the early 1950's when the Director of the Institute of Social and Economic Research suggested the value of such a research undertaking. Apart from an exhaustive history of the official aspects of Chinese immigration to British Guiana conducted in the early part of the twentieth century (2), the first systematic study to appear in print is that of an anthropologist, which was partially described in an earlier issue of this journal (24).

The present study, focusing chiefly upon the Chinese in Jamaica, was undertaken during a seven-month period in 1955 when the writer was on leave of absence from his regular responsibilities as a sociologist and student of race relations at the University of Hawaii. In the absence of extensive field research or of a considerable body of scientific literature, one is constrained to move cautiously in the formulation of specialized research designs. It was conceived as an exploratory study, utilizing Park's theory as a point of departure. Owing to limitations of space, only the first two phases of Park's scheme are considered in this article.

II

The introduction of Chinese to Jamaica, as in numerous other parts of the world, occurred as a consequence of the demands on a plantation frontier for tractable, unskilled labour. Following the enforcement of the Emancipation of Slavery Bill in 1834 and the final abolition of slavery in 1838, West Indian planters generally were faced with the necessity of finding an adequate supply of labour to perform the tasks previously performed by slaves. In the search for such sources, attention was naturally directed to numerous different areas, so as to reduce the danger of a monopoly by any one labour group, and, along with the importations of free Negroes from Africa, Irish, Germans, and indentured East Indians, small numbers of Chinese workers were imported in 1854 and again in 1884.

The introduction of Chinese into Jamaica appears to have been precipitated

by much the same set of circumstances which prevailed in other parts of the British Caribbean during the same period, and there is value in making such comparisons as the available facts will permit. To a degree, all the plantation colonies of Great Britain within this general area were compelled to seek new sources of dependable labour after 1834, but it was only in Jamaica, Trinidad and British Guiana that efforts to recruit Chinese were seriously undertaken. As early as 1811, a Committee of the British House of Commons "appointed to consider of the practicability and expediency of supplying our West Indian Colonies with free labourers from the East", reported that:

1. there prevails amongst the male population of China a great disposition to emigrate but that they almost universally emigrate with the intention of returning to their own country, and that a considerable number do actually return;
2. the Chinese emigrants have uniformly conducted themselves with the greatest propriety and order, and have been peculiarly instrumental in promoting the improvement of those countries to which they have emigrated (2, p. 6).

Despite assurances of the "important advantages which might, under proper arrangement, be expected to result to the West Indies 'from the introduction of a class of free people so distinguished by their orderly and industrious habits'," no positive action was taken on the suggestion as long as slavery was still in effect.

The essential elements affecting the situation throughout the area after slavery and contributing to the importation of Chinese are described in simple but essentially accurate terms by a resident of British Guiana.

After the abolition of slavery it was found impossible to carry on the cultivation of sugar estates in the West Indies and British Guiana without a steady and reliable supply of labour. The slaves, being freed, understood freedom to mean that they need not work any more, and, as tropical conditions impose no very severe penalties on the idle, such as quickly overtake them in countries where labour is abundant . . . , they were able to persist in their views of the privileges of freedom. So the colonists were driven to import labour from afar, which laid the foundation for the present scheme of East Indian immigration Owing to various causes, the supply of Indian immigrants was fluctuating, so the planters, considering it were wise to have two strings to their bow, advised the Government to open an agency in China for the introduction of Chinese immigrants (27).

Chinese immigration under governmental sanction was inaugurated in 1853 when a ship with 85 men and boys reached Demerara after a voyage of 177 days from Amoy, in the course of which 69 deaths occurred. The rigours of the long passage from China, by way of Cape of Good Hope, Cape Horn, or Panama, and the consequent high mortality among the workers made the importation a costly one, and the reactions among the planters as to the advisability of continuing the experiment varied considerably.

Despite a considerable loss of life en route from China and during the first few years of residence in the new setting, the early Chinese immigrants to British Guiana performed the tasks assigned to them with sufficient vigour and endurance to encourage the planters to ask for more. Chinese males only, to a total of 1,512, were imported prior to 1860, but 1,675 women and children were included among the 8,475 immigrants recruited during the next six years so as to bring the total Chinese population in British Guiana to its

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maximum of 10,002 in 1866^a. The earliest accounts from the planters were generally favourable to the Chinese, referring to them as "a very useful class of people, exceedingly apt and intelligent, and very willing. . . for strength and endurance . . ., equal to the Africans . . . happy and contented" (2, p. 44). Comments equally adverse, particularly with reference to the Chinese who deserted the plantations, were also reported.

Unfortunately, owing to the duplicity of the Chinese government and the rascality of the native sub-agents, instead of agricultural labourers, the emigrants ships were in many cases filled up in part with the off-scourings of Canton — gaol-birds, sturdy beggars, loafers, and vagabonds. These, when they arrived in the colony and had been allotted to estates, showed no inclination for sustained toil in the fields, and nearly all of them deserted after a few months' experience. Some joined a community of their countrymen, who had settled on one of the numerous creeks up the Demerara River; others took to peddling, rum-smuggling, illicit distillation, keeping gambling houses and brothels (27).

The same observer, a stipendiary magistrate in Guiana, was, however, impelled to characterize the Chinese community as a whole as "most worthy, law-abiding people, giving little trouble to police or magistrate; industrious, truthful, and honest, they make most excellent citizens". It is reasonable to assume that there may have existed justifiable grounds for descriptions so diametrically opposed to each other.

The initial experience of Trinidad with Chinese immigrants was basically the same as that of British Guiana. Valued chiefly for the physical toil they could perform in the plantation fields, they were correspondingly depreciated in so far as they threatened to dictate policies on the plantation or as they deserted the plantations for more remunerative employment elsewhere. The official reports in 1857 praised the initial group of 990 Chinese arriving in 1853 as "intelligent, industrious, and persevering", and recommended that others be added, providing that not too many were introduced at the same time or in the same locality. Attention was called to the disposition among the Chinese immigrants to "purchase their discharge from indented labour" and of establishing themselves as "jobbers, artisans, and small shopkeepers" (30).

The initial immigration of Chinese to Jamaica followed closely the pattern established just a year earlier in Trinidad and British Guiana. The Jamaican movement was inaugurated in November 1854 with a shipment of 197 Chinese recruited in Panama, and of the entire group of 472 Chinese introduced that year, it was reported:

. . . the majority came from Colon where they had gone to labour on the Panama Railway, where their health had been completely destroyed. The consequence was that soon after their arrival here they were to be seen in the streets "worn out and emaciated, heartbroken and miserable", and they eventually found homes in the hospitals and alms houses of Kingston and St. Catherine where the majority died as paupers (26).

The Jamaican Chinese probably encountered greater initial difficulties of adjustment because of their prior experience under trying conditions in Panama.

^aOf the total of 15,720 Chinese immigrants to British Guiana prior to 1913, 13,485 or 85.9 per cent were males. Owing to deaths and emigration, there remained in 1911 only 2,622 individuals, including the children born in the colony. By 1946 the Chinese population of British Guiana had increased to 3,527, not including those of mixed ancestry.

Certainly the dominant tone of most of the initial reports was definitely unfavourable, although there were also some statements commending the Chinese. One of the first official communications from the Governor of the colony established the model for many of the subsequent accounts of the Chinese.

As predicted from the first by those cognizant of the peculiarities of the Chinese character, the immigrants performed as little labour as they possibly could under the contracts entered into at Hong Kong, which bound their employers to lodge, feed, and doctor them gratuitously, besides paying them 4 dollars a month; whilst, on the other hand, the employers put to very considerable expense for fitting up houses, and procuring clothing and medical comforts, for persons debilitated by a long voyage and previous suffering, and called on at the same time to give bond for heavy sums in repayment of two thirds the cost of their introduction . . . soon discovered that they had made a bad bargain. Disputes arose; complaints were made on both sides. . . . In some cases the Chinese of their own accord absconded, and came up to town; in others, the planters deeming it fruitless to summon them for breach of contract . . . discharged them from their service. . . . Added to all this, much embarrassment was occasioned by the number of Chinese who had left the estate congregating in the neighbourhood of Kingston and Spanish Town, where the only mode of dealing with them was to arrest them as vagrants (31, p. 262).

Somewhat less critical in tone and expressing the belief that the existing difficulties might be resolved was a newspaper comment just a month later.

The Chinese and their employers in some districts have not agreed very well — in others, they appear to be getting on pretty satisfactorily. It is to be hoped that in proportion as these people acquire a knowledge of our language and as we become acquainted with their peculiarities, their usefulness will increase, and they will supply on some properties, that continuous labour which is so necessary to the successful cultivation of sugar (22).

The same journal, however, expressed strong opposition to the "godless" system under which the Chinese had been imported.

If we are to have immigrants, let us have them of the right sort, families who are of civilized habits, of Christianized principles, and of sound moral character. We have had enough of Chinese and Indian idolators (23).

Subsequent reports of vagrancy, begging, and threats of imprisonment are virtually all that remain of the 1854 importation of Chinese to Jamaica.

Thirty years elapsed before additional Chinese were imported to Jamaica to work on the sugar plantations. The issue was, however, very much alive in 1858 when the Colonial Legislature made provision for further immigration of Chinese, and thereby elicited strong opposition, particularly among the native Jamaicans. Despite the adverse experience of some of the planters with the Chinese introduced in 1854, the demands for reliable labour encouraged support for further immigration, the Governor of the colony reporting that the opinion of many of the planters was "in favour of the suitability of the Chinese as labourers". It was recognized by some planters that "the Chinese answer well as far as they go, but as they have no females amongst them, and do not amalgamate with the creoles, . . . in a short time they must die out, and so become expensive immigrants" (31, p. 266). In any case, the likely necessity of paying for their passage back to China resulted in the cancellation of further efforts at that time. Perhaps the major consequence of the effort was to evoke a strong opposition such as that reflected in the statement of protest from "a large number of lately emancipated labourers and others" insisting that

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the introduction of Chinese and coolie immigrants is likely to call forth the most undesirable feelings in the minds of the peasantry of this island towards the proprietors (and) . . . the introduction of a number of heathen and pagan foreigners, with their religious superstitions, idolatry and wickedness, will act most injuriously on the morale of the inhabitants of the islands (31, p. 216).

Despite the hiatus in the official record of Chinese immigration between 1854 and 1884, it would appear from the 1871 Census report of 141 natives of China in Jamaica that there might be some substance to the unconfirmed reports in the Chinese community of an immigration in 1864, numbering over 200 from Trinidad, British Guiana, Panama, and Hawaii. According to these accounts, the large-scale agricultural ventures sponsored by Americans attracted the Chinese labourers, who did not, however, remain long in agricultural work, but soon gravitated to business pursuits. This is somewhat confirmed by the census report that in 1871, 116 out of the total of 141 Chinese reported by the census in Jamaica, including all of the females, were resident in Kingston and in the remainder of the Parish of St. Andrew. At least one Chinese family now resident in Jamaica is descended from an 1872 immigrant who came from Trinidad to engage in trade. It is significant, however, that many of these early arrivals did not remain as permanent settlers, since the 1881 census reported only a total of 99 Chinese on the entire island.

The concern in 1884 for the further immigration of Chinese was precipitated chiefly by the excessive loss of native Jamaicans and East Indians to work on the Panama Canal. A single shipload of 696 persons, including 539 men and boys, 127 women and girls, and 34 cooks and helpers, arrived from Hong Kong in July, 1884 for work on the Jamaican plantations (3), but within a month, reports appeared in the Jamaican press about the refractoriness of the new arrivals, as indicated by their saying that "they preferred to go back to Hong Kong than work for the small wages offered on the estates. They were taken to the Lock-up" (4). The official report by the Protector of Immigrants gives a slightly different version, indicating that of the total of 680 Chinese arriving (exclusive of interpreter, headmen, dispensers and their wives and children), 29 men were rejected as wholly or partially incapable of agricultural labour, while the remainder were "generally persons of excellent physique". They were reported as having involved greater financial expense to the planters than East Indian immigrants and as proving "intractable" presumably because they "preferred exorbitant demands for wages which could not be complied with" (1). The bulk of the Chinese were assigned to sugar estates in the parishes of St. Thomas and St. Mary where, "at first considerable difficulty was experienced, many of the Chinese refusing to do any work and some of the employers refusing to sign the indentures". The most serious difficulties apparently developed at Gray's Inn Estate where

Seven (Chinese) were convicted and sentenced to pay a fine of twenty shillings and sixpence each, but having made default they were handed over to the Police to be taken to prison for thirty days should the fine not be sooner paid. Their countrymen, however, violently assaulted the police with stones and sticks, injuring the Inspector, Sergeant Major, and one of the men, and rescued the prisoners. On an attempt being made to recapture them with the assistance of other of the plantation employees, the

Chinese again attacked them with stones and only three of the prisoners could be recaptured, and two of these a few days after paid the fine and were released. The persons who were assisting the police in the attempt at recapture unfortunately, on being so violently attacked became infuriated and retaliated, beating several of the Chinese severely. The Inspector of Police, the Inspector of Immigrants, and other gentlemen who happened to be present appear to have done their best to protect the Chinese and as soon as the affray was over, to give assistance to those who had been injured. One unfortunate chinaman was found to be seriously hurt, and he died about four hours afterward while being conveyed to the Public General Hospital (25).

Despite the inauspicious beginning of their plantation experience, the Chinese immigrants gradually "settled down to work" and they gave promise of becoming valuable workers because of their reputed high intelligence and their neatness in work. The same report, however, described adversely their "quick and vindictive temper" and their turbulence, which presumably was attributed to their "being of different races, viz., the Puntí or 'indwellers' of Kwangtung and the Hakka or 'Strangers', between whom there have been more than two centuries of hatred and feud" in China. It was further stated that since their arrival, the Hakka had "shown the most turbulence and had been least amenable to reason". A report from the same office two years later states

The Chinese coolies continue to perform satisfactory work; they are more hardy than East Indians and the mortality amongst them is less; but so large a number have deserted from their estates that their usefulness as indentured labourers has been most materially curtailed. There are now 179 deserters from their estates. Three Chinese were killed from the excessive use of opium (25).

Thus, the opening chapter of Chinese experience in Jamaica closed on much the same note as the one on which it had commenced — of mingled appreciation for the qualities of the immigrants as labourers and of carping criticism for their failure to continue as workers on the estates. This latter emphasis continued throughout the subsequent period when the need for immigrant workers had ceased to exist and when the Chinese continued to migrate to Jamaica under markedly different auspices.

III

Because of the strongly adverse sentiment which developed toward the Chinese as participants in the Jamaican economy, they were never permitted to immigrate in any large numbers. As a consequence they have not figured extensively in the usual discussions of population trends, and most information on the underlying life adjustments of the Chinese within the Jamaican setting, including their struggle for survival at both the biological and the economic levels, must be traced chiefly through the meagre records of the official census and the incidental comments in the island press. Symptomatic, perhaps, of the scanty official notice given to the Chinese colony in Jamaica is the fact that official sources were unable to supply the basic facts regarding the movement of Chinese in and out of the island during any major portion of the period since 1884.

Judging by such data as are available, the present Chinese community in Jamaica consists only to a slight degree of the descendants of the immigrant

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labourers. Although the 1884 importation included 18 per cent women and girls, many of the labourers must have either returned to China or emigrated to other parts of the world. The census of 1891 reported only 481 Chinese remaining in the island of more than 800 who either arrived in 1884 or were included in the previous census. A sex ratio of 345 males per 100 females still prevailing in the small Chinese colony in 1891 was not conducive to permanent settlement, although a number of the present Chinese business establishments were founded during this period. The rapid drift from plantation labour to commercial pursuits is further confirmed by the fact that 61.3 per cent of the small Chinese population in Jamaica in 1891 were resident in Kingston and Port Royal, and only 8 per cent remained in St. Thomas and St. Mary, where the bulk of the 1884 immigrants had been sent for plantation labour.

A new phase in the adjustment of the Chinese community in Jamaica began to take form in the 1890's, as further recruits from China were obtained, not as workers on the sugar estates but as participants in the expanding commercial life of the island. Between 1891 and 1911, when the next census occurred, the Chinese population had increased from 481 persons to 2,111, of whom, however, only 328 were females, yielding an aggravated sex disproportion of 543 males per 100 females. Not more than one out of every five Chinese then resident in Jamaica had been born within the island.

This was the period in which the Chinese were extending their dominance over the grocery trade from Kingston into the rural portions of the island. Unfortunately no racial breakdown by occupation is available in the census of 1911, but there is a rough correlation between the total numbers listed as shopkeepers and as Chinese by parishes. Although the proportion of all the Chinese residing in the Kingston area had dropped from 61 per cent (in 1891) to 34 per cent, this latter figure was still far in excess of the 7.2 per cent of the total population resident in Kingston. All of the rural parishes except Hanover had attracted at least 25 Chinese residents each, but it can also be readily understood that the rural Chinese were more widely scattered among alien people and that their problem of social isolation was also much more acute. In some of the rural parishes, such as St. Ann, Westmoreland, and St. Elizabeth, there was fewer than one Chinese resident per thousand of the total population, and in five of these and other rural parishes, the ratio of males to females among the Chinese residents was more than ten to one.

Under the circumstances, the emergence of a sizeable mixed Chinese population in these areas was a natural consequence, although the number involved was apparently not sufficient to attract serious attention until some years later. It was not until the census of 1943 that a distinction was made between the pure Chinese and the Chinese Coloured, who by this time numbered nearly as many as those of unmixed ancestry.

Significant numbers of Chinese continued to be attracted by the oppor-

TABLE 1. CHINESE POPULATION IN JAMAICA

Census date	Total Chinese Population	Males	Females	Number Males per 100 Females	Chinese Residents in Kingston and St. Andrew (Urban)	
					Number	Per cent of all Chinese
1871	141	131	10	1,310	116	82.2
1881	99				88	88.9
1891	481	373	108	345	304	63.2
1911	2,111	1,783	328	543	952	45
1921	3,696				1,549	41.8
1943						
Pure Chinese	6,879	4,338	2,541	171	3,734	54.3
Chinese Coloured	5,515	2,584	2,931	89	2,505	45.4
Total	12,394	6,922	5,472	126	6,239	50.3

tunities for small trade in Jamaica, resulting in an increase of their unmixed population to 3,696 in 1921 and to 6,879 in 1943. The smaller communities in rural Jamaica apparently afforded the best economic outlets for the Chinese, at least until 1921 when nearly 58.2 per cent of their numbers resided in the parishes outside of Kingston and St. Andrew. By 1943 the proportion of Chinese in the rural parishes had again dropped to 45.5 per cent, and the sex ratio had also diminished to 171 males per 100 females among the pure-blood Chinese. The continued excess of adult males over females was a major factor in the strikingly high number of Chinese Coloured population, reported to be 5,515, or 44.5 per cent of the entire Chinese population in 1943^a. A significantly higher proportion of the pure Chinese (54.5 per cent) than of the Chinese Coloured population (45.5 per cent) were resident in the urban districts, but the combined rate of 50.3 per cent was still considerably higher than any of the larger racial groups in 1943 except the White group.

The Chinese Coloured population was in 1943 notably larger than the pure Chinese population in the four northern parishes of St. Mary, St. Ann, Tre-lawny, and Hanover, and in Clarendon and Manchester — districts in which the excess of males over females among the Chinese immigrants in 1911 was particularly acute. The 1943 census also reported a somewhat unusual excess of females over males among the mixed Chinese, especially in the urban and bordering districts. This anomaly is quite possibly a consequence of the strong Chinese tradition in these areas, by which the male offspring of mixed alliances were more likely to be nurtured in the paternal culture and were consequently returned in the census as pure Chinese, whereas the female offspring were returned as Chinese Coloured.

Although the proportion of unmarried persons among the Chinese was

^aIt is impossible to determine precisely what proportion of the Chinese Coloured population regarded themselves and were regarded by others as Chinese. Among the 5,515 persons classified by the census as Chinese Coloured, there were certainly some who had lost, if indeed they ever possessed, any sense of identification with the Chinese community. The great majority, however, undoubtedly conceived of themselves as Chinese and were so conceived by others, and for purposes of the present study, it appears necessary to include the Chinese Coloured in the total Chinese population.

higher than in any other racial group in the island, the Chinese also appeared to be reproducing more rapidly than any of the other stocks. Comparative birth rates were not available, but the simple ratio of children under the age of five per thousand women in the child-bearing years (20-44) as derived from the census affords a fairly adequate index of reproduction in the various racial groups. On this basis, the Chinese, including the Chinese Coloured, clearly outstripped all the other groups with an exceptionally high rate of 1,450 as compared with 826 for its nearest competitor, the East Indians and the East Indian Coloured, and with 646 for the total population of the island^a. The Chinese in Jamaica also differ from the demographic forms of the rest of the population in having a higher proportion in the younger age and a lower proportion in the older age brackets than any of the other major ethnic groups in the island. As compared with 55.3 per cent under the age of 25 years and 4.2 per cent 65 years of age and over among all races in the island, the Chinese reported 67.7 per cent in the former category and .6 per cent in the latter category.

These striking demographic abnormalities among the Chinese are partially understandable in the light of the recent arrival of the group within the island. Unfortunately the 1943 census did not record the birth place of the population by racial origin nor the arrival date of the immigrants by ethnic origin, but it appears from such available evidence that at least 41 per cent of the pure Chinese had been born outside of Jamaica. Among the 2,818 persons recorded as immigrants from China and Hong Kong (presumed to be Chinese), there was still a high sex ratio of 356 males per 100 females, despite the fact that more Chinese women than men migrated to Jamaica during the six years just preceding the 1943 census. The overwhelming majority (77 per cent) of the Chinese immigrants resident in Jamaica in 1943 had arrived in the island prior to 1931, and among these remaining at the time of the census, there were 523 males to every 100 females.

The preliminary results of a sample census enumeration in September, 1953 tend to confirm many of the demographic trends noted above. The ratio of pure Chinese to Chinese Coloured in the 1953 sample was almost the same as it had been a decade earlier — 56 per cent as compared with 55.5 per cent in 1943. The disproportion of males to females among the pure Chinese had naturally declined somewhat with the passing of time, but the same excess of females to males was noted among the Chinese Coloured in 1953 as ten years earlier. There was a slightly greater tendency for the pure Chinese to reside in the areas outside of Kingston and St. Andrew, but the group was still much more highly urbanized than the general population of the island.

The occupational inclinations of the Chinese have continued to be overwhelmingly in the direction of trade and business as Table II clearly indicates.

^aThe practice of classifying the mixed-blood children with the race of the father has the effect of artificially augmenting the Chinese rate, since the Black or Coloured mother is not included in the denominator used.

TABLE 2. CHINESE WAGE EARNERS BY MAJOR OCCUPATIONAL CLASSES AND SEX FOR JAMAICA, 1943

	Chinese		Total Population	
	Number	Per cent	Number	Per cent
A. Males				
Agriculture	41	2.7	92,856	45.6
Manufacturing	115	7.6	15,432	7.6
Construction	19	1.3	13,605	6.7
Transportation and Communication	38	2.5	8,686	4.3
Trade	961	63.6	4,388	2.2
Finance	3	.2	188	.1
Recreational	2	.1	125	.1
Professional	16	1.1	2,211	1.1
Public Service	9	.6	4,193	2.1
Personal Service	118	7.8	11,405	5.6
Clerical	162	10.7	5,673	2.8
Labourers	27	1.8	43,458	21.4
Total Males	1,511	100.0	202,220	100.0
B. Females				
Agriculture	5	.8	31,498	24.6
Manufacturing	32	5.4	4,089	3.2
Transportation and Communication	1	.2	1,446	1.1
Trade	301	50.4	2,992	2.3
Professional	19	3.2	3,732	2.9
Public Service	1	.2	356	.3
Personal Service	122	20.4	67,607	52.9
Clerical	110	18.4	3,245	2.5
Labourers	5	.8	12,416	9.7
Total Females	596	100.0	127,381	100.0

The Chinese had roughly thirty times their expected proportion of males engaged in trade in 1943 in contrast to one-twentieth of their expected representation in agriculture, and apparently the same situation obtained ten years later. No special theory of a racial propensity for commercial pursuits is necessary to explain the heavy concentration of both Chinese males and females in the field of trade. As one of the extraneous elements in the midst of a large peasant and only partially industrialized community, the Chinese were ideally situated to play the role of the impersonal, but none-the-less useful tradesman. Unlike the black or coloured populations of Jamaica, who were handicapped as tradesmen by the personal claims of relatives and friends, the immigrant Chinese and Syrians^a found in trade the one field of economic endeavour in which their alienism was an asset rather than a liability. The symbiotic character of Chinese participation in the Jamaican economy is further reflected in their decided under-representation in public service occupations, where personal influence and prestige are bound to figure prominently, and in Chinese over-representation in clerical pursuits, which frequently serve as stepping stones from lower to higher status.

The preoccupation of immigrant groups with economic success is a well-nigh universal phenomenon in the modern world, and the experience of the

^aAlthough a very much smaller group in the island and more heavily concentrated in the urban areas, the Syrians were in 1943 about as overwhelmingly engaged in trade as the Chinese. The Jews, who have traditionally played the role of tradesmen and undoubtedly did so in Jamaica at an earlier period, are now more thoroughly assimilated in the community, as the wider distribution of their wage earners in the various occupations clearly indicates.

Chinese in Jamaica is not particularly unique in this respect. Suffering from the handicaps of the stranger and the outcast in almost every other realm, the immigrant group quite naturally concentrates on the one type of enterprise in which outsiders possess the advantage. The tendency to concentrate their activities upon purely economic endeavours and thus to acquire a reputation of being wholly money-minded is particularly pronounced in a group such as the Chinese in Jamaica, who have encountered strong opposition in other areas of community-wide participation.

A rough and somewhat abstract measure of the extent to which the Chinese have advanced in the economic scale in Jamaica is provided in the following listing of the median weekly earnings by racial groups in Jamaica in December, 1942: Blacks, 6/2; Coloured 18/2; Whites (not otherwise specified), 83/9; British Isles Races, 115/3; Jewish, 77/2; Chinese and Chinese Coloured, 34/10; East Indian and East Indian Coloured, 10/1; and Syrians, 54/-. Thus it appears that the Chinese, although among the more recent arrivals in the island, had on the whole progressed economically considerably further than the native black or coloured population or the East Indians, who had immigrated considerably earlier. On the other hand, the Chinese were very much behind all of the European immigrant groups, including the Syrians, who arrived in Jamaica no earlier than the Chinese. A small but significant minority of the Chinese wage earners were in the upper income classes. Unfortunately comparable data for the various ethnic groups are not available in the 1953 census, but other evidence indicate that the Chinese have maintained at least as high a relative position since 1943.

IV

The conflict and accommodative phases of the Chinese experience in Jamaica are not always clearly differentiable from the impersonal and competitive aspects of the process, thus far outlined. Conflict, in the sense of vigorous opposition and even physical violence, was involved in the earliest relations between the immigrant Chinese and the Negro, white, and coloured residents of the island, and no protracted period of impersonal competition was necessary to initiate the phase of conscious and overt struggle between them. The early outbreaks of feeling, on the other hand, while more dramatic and explosive in character than those which occurred later, were almost accidental in character and did not produce resentments on the part of any large segment of the population. It was not until well into the twentieth century that the Chinese came to symbolize in the minds of the general population of Jamaica a threat of serious proportions.

The most obvious, but by no means the only, basis of conflict between the Chinese and the other ethnic groups in Jamaica was the struggle for economic position. The familiar observation of sociologists that race prejudice arises as a defence mechanism whenever the vested interests of the dominant groups

are seriously threatened by the upward strivings of the immigrant labour groups is graphically illustrated by the experience of the Chinese in Jamaica during the present century. As already indicated, the Chinese began getting "out of place", occupationally and economically, shortly after their first arrival in the island, but it was not until the early decades of the twentieth century that this fact came to be widely recognized, to the point of creating the stereotyped conception of the Chinese as "the Yellow Peril".

The establishment of Chinese grocery shops had extended throughout the island prior to 1911 and had thus brought vividly to the attention of the entire population that these once humble labourers were displacing the native Jamaicans as the shop-keepers of the country. Lord Olivier's one and only direct reference to the Chinese in his classic analysis of the Jamaican social scene was to attribute the extensive prejudice manifested by the Jamaicans towards them to the fact that

being very clever and industrious shopkeepers, they [the Chinese] do better in that line than their Creole competitors, and consequently, although popular with the consumers who deal at their shops, are very unpopular with the Jamaican retailers who do not take so much trouble about their business (28).

Community leaders of both the white and Jamaican communities reported in 1913 widespread concern over the growing concentration of Chinese in the provisioning field, with some expressing bitter resentment and others assuming a somewhat more objective attitude toward the invasion. A prominent member of the island society, in reminiscing on the Kingston of twenty years earlier, spoke of the shops kept by the natives of that day as having been cleaner and better stocked than those few operated by the Chinese, but

The Chinaman brought genius to his task . . . to capture the trade from the native. He gave "brata" (a corruption of a Spanish word which means to give gratis) to every woman and child that bought from him. . . . By means of "brata" and by sleeping in his shop and by falsifying his rates and by selling a farthing's worth of this and a farthing's worth of that, he very speedily made the native get out. . . . The Chinese shops succeeded, and now a good many of them are quite as well stocked, as clean, as attractive to look at as groceries used to be (21).

Although crediting the Chinese with having taught the natives a useful lesson in business economy — not to "play draughts during the day or to indulge in lengthy arguments on transubstantiation while someone is waiting for a pound of sugar" and to pay their bills promptly — he voiced the widely-held hope that the native would regain the business. Other observers were far less optimistic regarding the prospects for the natives and far more critical of the Chinese invaders.

The Chinese have discovered Upper Clarendon. . . . They have settled at Rock River, Four Paths, and several at Chapelton. Up to a few years ago, there were only two shops kept at Crooked River and those by natives; today there are three Chinese traders and one native . . . at Grantham, the only shops are Chinese, natives being forced to sell out to them. . . . Can the authorities do nothing to let Jamaicans feel that Jamaica is still their home, and strangers will not be allowed to elbow them out of what is theirs by right? (5).

Reflecting much the same temper, as derived from similar experience in another rural area of the island, is the following published letter:

The parish of Manchester is the den of the ever increasing Chinese population of the Island. A native, possessing the ready cash, would not have a ghost of a chance

if he attempted to open up business in the line in which the Chinese deal in Mandeville. Every native shopkeeper finds it necessary to circulate his earnings in some way or another, whilst the Chinaman simply hoards up his cash, living on an economic scale which the native would find it disastrous to attempt (6).

These are the familiar characterizations of the immigrant group whose rising economic status has become offensive to the earlier arrivals and the native groups — charges of duplicity, craftiness, and unfair competition, of depressing the plane of living, and of deliberate violation of the law of the land.

Actually there may have been a considerable amount of illegal activity on the part of the Chinese, some quite purposeful and much more quite unintentional. Apart from the critical comments on the invasion of forbidden economic territory, virtually the only reference to the Chinese in the press of Jamaica were the accounts of alleged infractions of the law — gambling, the serving of rum on a Sunday, the use of incorrect weights and measures, falsification of accounts and records, particularly in connection with bankruptcy proceedings, and the smuggling of both persons and goods. The natural disposition of the aggrieved natives, coloured and white, was to interpret the behaviour as wilful and sinister lawlessness, although the newspaper accounts frequently suggest that unfamiliarity with Western law and custom was the determining factor.

Sergeant C. has for the past few weeks been "on the job" testing all the scales and measures around town. His labours have not been fruitless, for yesterday he brought two celestial shopkeepers before His Honour. The men pleaded guilty to several charges under the weights and measures law (7).

... a Chinese shopkeeper doing business at Montego Bay, will spend the next three months in jail for not keeping proper books of accounts as required by law. The debtor went into bankruptcy a short time ago, and it is said that his liabilities amounted to an enormous sum. The only books that were produced were some small pass books written in Chinese (8. See also 9, 10).

Particularly evident in all of these accounts is the tendency to conceive of the Chinese in distinctly impersonal terms, as though they constituted a somewhat lower order of being. The use of such terms as "Chinaman", "John", and "Celestial" carry at best a note of condescension, and more commonly of disparagement^a.

A decade later, charges of a more serious nature against the Chinese, including arson, assault, and even murder, reflect the heightened intensity of feeling toward them. The outbreak of a fire in a Chinese shop, under questionable circumstances, was commonly attributed to the efforts of the proprietor to collect on his insurance. One such case reported in the press contained the suggestion of deliberate arson by the proprietor.

When C. was asked to give some assistance to extinguish the flames he threw down the bucket. Why did he not want to save his property? ... The suggestion of the Crown was that the fire was deliberately set and for the purpose of gain. ... There was a strong smell of kerosene oil in the premises (11).

Closer scrutiny of the case, however, revealed that the proprietor would have lost £380 if the place had burned down, and, as N. W. Manley, counsel for the defendant, observed, it was unlikely that "a shrewd Chinaman would

^aThe psychological character and correlates of the conflict between the Chinese and the other ethnic groups will be elaborated in another article.

have set fire to sustain such a loss", despite the common fallacy "that wherever there was a fire there was a Chinaman".

For a time, the fires involving Chinese shops almost reached epidemic proportions, but it soon became evident that this outbreak of collective excitement was less a manifestation of Chinese resistance to British law and morals than an expression of native resistance to Chinese economic success. Repeatedly, in numerous rural areas, as well as in Kingston, fires did occur and Chinese were charged with arson, but in none of the instances reported in the press during the year 1923, when the problem figured so prominently in public attention, was a conviction obtained. On the contrary, the mounting evidence pointed rather to the abuse of the Chinese, as expressed by one of them, "Them thief out my £100 and burnt down my shop". Sensational stories appeared on the front page of the daily press charging that incendiary gangs, "in touch principally with Chinese" entered into "a compact to burn a place for a fixed sum". Subsequent reports discounted completely the idea of a Chinese conspiracy and suggested instead the responsibility of non-Chinese elements of the population.

One [theory] which is accepted in a good many quarters is that a determined effort is being made to drive the Chinese merchants (wholesale and retail) out of business throughout the island by means of the fire brand, by parties who are jealous of their success. For the Chinaman today is the retailer supreme throughout the length and breadth of Jamaica and also holds an important and ever-growing position in the wholesale provision trade. The second theory is that at least 50 per cent of the fires, the majority of which have been or have started in places owned by Chinese, is the work of burglars, who have either through carelessness or by design fired the buildings in which they carried on their nefarious operations. There are also other theories, such as revenge in the cases of uninsured places (12).

Still another explanation — that some of the fires had been set for the purpose of affording opportunities for looting — seems also quite plausible in the light of reported instances in which the same shop was set on fire three different times in one week. Malice so intense toward the Chinese, however, had the effect of eliciting a degree of sympathy for the victims, at least temporarily.

Typical of the cases reported in the press, involving violence between Chinese and the other ethnic groups was a section headlined in the press under the caption, "Chinaman is Charged with Murder Crime" (13). Incidents, such as the one reported in the press just a few days later, involving the killing of a Chinese storekeeper by a native burglar who had "robbed the poor Chinaman of every penny he had in his shop", were perhaps more common. Something of the feelings likely to be engendered among the Chinese is suggested by a similar case some months later in which one of them was robbed, gagged and bound to his bed, while his shop was set on fire (14).

It may be argued that these and the numerous other instances of assault and even murder involving the Chinese were chiefly the attacks by the very poor upon those who had all the necessities of life, and this was undoubtedly true, but owing to the fact that individuals of two different ethnic groups

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were involved, the cases also assume a racial significance. Certainly repeated instances of such tragic proportions served to impress upon the Chinese the sense of their being a people under attack, whose very survival in a strange and hostile land depended upon their standing together.

Despite their reputed astuteness in business, the Chinese in Jamaica were by no means always successful, and the Western contrivance of clearing one's debts by filing bankruptcy proceedings, was readily adapted by the Chinese as a step to economic success. This device, however, obviously did not add to their prestige or social acceptance by the other ethnic groups. During the 1920's and early 1930's, the attention of the press and the public became focused upon this particular phase of the assimilation of the Chinese.

Within the past few months there have been quite a number of Chinese bankruptcies in the island, and the mercantile community is being stirred into action. A few days ago a Chinaman appeared in the bankruptcy courts in Kingston and admitted that within a few days of his bankruptcy several hundred pounds of goods came into his possession and for which he did not account. There is good reason to believe the government will be asked to introduce legislation whereby alien traders will be required to deposit a certain amount as security for their bona fide trading, and if they should become bankrupt under certain circumstances, they would not be allowed to trade again. It is hoped that by this means merchants will be protected. In one recent case it is known that merchants sustained a loss of nearly £300 (15).

A more sinister interpretation of some of the Chinese bankruptcies as fraudulent schemes for avoiding the payment of debts was expressed a few months later.

We understand that recent investigations by the trustee in bankruptcy has disclosed quite a lot of shady dealing in connection with certain Chinese bankruptcies, and it would appear that in order to establish anything like honest trading amongst some Chinese traders, it will be necessary for the provisions of the bankruptcy law to be strictly enforced. In some cases it is found that some Chinese traders, after getting credit, will transfer the goods to their countrymen, whilst others remove from one district to another, change their names and in some cases their appearance. Others will keep no proper books of account, whilst some of those who file statements of affairs after they become bankrupt, put in fictitious claims for wages and salaries on behalf of some relatives (16).

The additional substantiated charges that business funds had been sent back to China, that business records were kept only in Chinese unintelligible to the Jamaican officials, and that funds from the sale of one enterprise on which there were still unpaid debts were used to launch other untried ventures provided the grounds for sending more than one Chinese shopkeeper to prison. Although the great majority of the Chinese engaged in business continued to enjoy a reputation for honesty and integrity among their non-Chinese colleagues and competitors, the impression given to the general public by the bankruptcy cases was simply that of shrewd and unscrupulous exploitation.

Shopkeeping is an occupation which frequently places the participant before his public as an exploiter — as one who seeks to capitalize upon the misfortunes of his customers by raising prices of essential commodities when the supply is limited and by charging always what the traffic will bear. In this respect, as well as in others, the Chinese were in the earlier decades of the present century ill prepared to protect themselves, because of their un-

familiarity with the English language and with British legal practice. Prior to the early '20's, the Chinese had to rely almost wholly upon interpreters and non-Chinese legal representatives in any encounters with the wider community, including those involving bankruptcies, and it is reasonable to assume that frequently the Chinese were victimized as a consequence. Such seems to have been the case, for example, of the Chinese who had been attacked by three boys and robbed of two shillings and his Panama hat. He fired one shot into the air with his revolver to stop the boys, but instead was arrested, charged with a breach of the peace, and fined "21 shillings or 21 days" (17). A few months later, a Chinese shopkeeper was charged with murder for having shot in the thigh a native who had broken into the till in his shop. A variety of other minor infractions of the law with which Chinese were charged during the first two or three decades of the present century — serving rum on Sunday, neglecting to keep kerosene in airtight containers, killing a pig at a place other than a slaughter-house, selling certain types of goods without a special license, and selling goods after the hours prescribed by law — figured much less prominently in the news regarding the Chinese once they had become fully conscious of what the law demanded. This did not mean, however, that the public criticism had been allayed to any significant degree.

Indeed, the overt phases of conflict appear to have been intensified at a time when the Chinese were making their most effective material and economic adjustments to the Jamaican setting. It was after a full generation of association with the Chinese as shopkeepers that the widespread resentments of the Jamaicans expressed themselves in the open looting of Chinese stores in 1938, at a time, it is true, of serious unemployment. For a period of several days in early December, 1938, the city of Kingston, in particular, was in a turmoil as a result of events reported in the newspaper headlines as "Raiding Chinese Shops and Bread Vans". A situation of general labour unrest, growing out of unemployment and depressed economic conditions, broke out into public demonstrations, in which the Chinese shops afforded a convenient and generally accepted target of attack. Newspaper accounts referred to the violent demands of the unemployed mob — of helping themselves to "eatables in the presence of the terrified shopkeeper", of frightening the driver to give away his whole load of bread and of entering other shops and demanding goods.

The public demonstrations by the Jamaican unemployed provided the occasion for attempts to obtain discriminatory legislation, quite clearly directed against the Chinese. The sentiments expressed by members of the Legislative Council were wholly in favour of an act to restrict permission to engage in business to natives or persons residing in the island for a period of five years or more, and had it not been for the Colonial Secretary's objections to this act as discriminatory to British subjects, it would probably have

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received the approval of the Council. The legislative agitation, supported by both native and British members of the Council, was directed specifically toward the Chinese whose business control was characterized as "an octopus, sapping the life of the island". Direct action, in the form of an island-wide boycott of Chinese business houses, was recommended as a substitute for legislation, but the proponents had little confidence of its effectiveness, recognizing that:

If people can get a thing for a farthing less, it does not matter whether they are killing their own or not, they will follow the Chinaman ten miles to get that thing for the farthing less (18).

Just a few weeks earlier a deputation of leaders from the Chinese community had appeared before the West India Royal Commission to protest that:

There exists in the island today a strong antagonistic feeling toward them, which is fired by frequent gatherings at street corners, at which the Chinese are denounced. On many occasions politicians or pretended politicians, by frequent exhortations at street corners, advised the people not to purchase their goods from Chinese groceries and added to some prejudicial reports that appeared in the island's newspapers from time to time (which) serve the purpose of widening the breach. . . . It is respectfully submitted that the laws which prohibit agitation calculated to create race hatred and to set class against class should be more fully invoked in protection of the Chinese (19).

During the hearings of the Commission, the leaders of the Chinese community testified that the "strongly antagonistic feeling toward Chinese had increased in recent years" and that "in some cases the police have been known to speak of the Chinese disparagingly in the presence of the public, and naturally the observer takes that to mean . . . he can do likewise".

The period of the second World War brought a temporary cessation of public expressions adverse to the Chinese, partly as a consequence of the military alliance between the two nations. Notable in this respect was the omission of any gratuitous reference to race in newspaper accounts, especially those relating to vice or crime involving persons of Chinese ancestry. A number of official acts, including a public tribute to the Chinese people by the Governor of the island and his appointment of a Justice of the Peace from among the Chinese, as well as newspaper editorials commending the Jamaican Chinese for their participation in the larger life of the community, suggest that a new temper had come to prevail.

We join with His Excellency in his tribute to the great Chinese people, both at home and in Jamaica. . . . Here in Jamaica the Chinese have long passed the stage where they were regarded as a mercenary minority engaged in exploiting the country's wealth. Today they are a constructive community, helping to make this country's prosperity and sharing in its vicissitudes (20).

Such public commendations, however, were only a partial redress for the private acerbity which continued to characterize the relations between the Chinese and the rest of the island population.

The predominance of the Chinese in a business affecting the distribution of the basic necessities of life, particularly at a time when the supply was severely limited, further increased their vulnerability to public resentment. War-time rationing of such basic commodities as kerosene, flour, and codfish

added immeasurably to the difficulties of the Chinese shopkeepers, as the account of one of them clearly indicates.

Hell finally broke loose this morning when the kerosene oil was released for sale. Everyone seemed to have gone crazy. People shouted at the top of their voices, jostled and pushed. . . . It was a good thing we closed the shop and left only one iron-barred window open through which we did the selling, or else everything would no doubt have been in shambles (29).

Despite the irritation to both the Chinese traders and their customers and the resentments that were vigorously expressed in private, the general social climate had changed to such a degree that public demonstrations were regarded unfavourably.

Increasingly the press, for example, has tended to emphasize the positive contribution of the Chinese to the larger community and to remove the references to race in whatever criticisms were still directed to members of the Chinese community. During the second World War, especially, the Chinese were lauded for their patriotism and resistance to aggression; even in the accounts of gambling or other infractions of the law, the Chinese were not alluded to as a race, although it was ordinarily easy enough to identify them by their names.

This new structure of goodwill toward the Chinese was still laid, however, on somewhat shaky ground as the shifting expressions of attitude toward them in the press clearly indicate. For example, a journal of opinion which in 1949 was heaping praise on the Chinese for their many fine qualities, including their generous contributions to the life of the community, three years later reverted to the familiar charge against the Chinese of living wholly within their own ethnic wall.

Overall, the Chinese are keen businessmen, smart students, shrewd lawyers, fine sportsmen, hardworking, thrifty, helpful. They are among the first and the most generous to rally to public causes. Without trumpet-blowing, they do a tremendous lot of charitable work, even among non-Chinese groups. As owners and operators of stores, factories, large and small industries, they give employment to thousands of Negroes and half-castes of every nationality within the island. As taxpayers, they bear a comparatively large share of the country's economic burden. . . . For the benefit of the still-prejudiced it should be much more widely known that this second generation are Chinese only because they look like Chinese. They think Jamaican, Jamaica is their home, and never miss an opportunity to show their love for and patriotism for the country of their birth and upbringing. Psychologically, they are more Jamaican than the children born in Jamaica of European parents (34).

In contrast to the above flattering statement regarding the Chinese, the same editor just three years later was impelled to write the following derogatory and inflammatory statement under the caption "Occidental Chinese Wall":

If the Chinese in Jamaica don't do a *volte face* soon they are going to plunge the whole island into serious racial trouble. . . . The rest of Jamaicans are beginning to look at the Chinese wall, and it is not a friendly look; it is a look that bodes ill, a threat to the continuance of internal peace. If the Chinese keep piling up wealth and hate behind that wall, giving back nothing to the community they may find it expedient to go back "home" sooner than they hope. . . . They hate to see their women folk fraternize with anybody else, though they fraternize with the women of the other groups. . . . They hate Negroes more than all . . . though they have bred more half-Negro children than any other group during the past fifty years. They ostracize any of their group who accept employment with Negro firms. There is the case of a Chinese girl who married a Negro some time ago. Her folks haven't spoken to her since. Many other similar cases can be cited to illustrate the hates, prejudices, and insularity

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which have been bred behind the Chinese wall. The Chinese take full advantage of all the facilities the community offers, yet such facilities as they have as a group are reserved for Chinese only. Examples: only Chinese are employed in Chinese businesses; only Chinese are accepted in the Chinese public school; only Chinese are admitted to membership in the Chinese Athletic Club. Few Chinese even bother to vote (35).

This expression of resentment could be regarded as a mere temperamental outburst of an erratic editor except for the fact that it apparently struck a responsive chord among certain elements in the community, as judged by the letters which followed.

By the middle of the present century, however, the conflict phase of the adjustment had so far diminished in public consciousness as to have virtually disappeared from the daily press. By 1953, for example, the only specific references to the Chinese, in the chief daily newspaper of Kingston were to celebrations of national festivals, such as the *Gah San* (memorial celebration honouring the dead) and the Double Ten anniversary of the overthrow of the Manchu Dynasty. Occasional critical references were made to the gambling game of *Peaka Peow*, known to be operated by Chinese, but without specific mention of their race. In general, however, the only way in which the ordinary reader would be likely to have the presence of the Chinese called to his attention by the Kingston newspapers would be the items presenting names and photographs clearly recognized as Chinese in connection with affairs of business and sports, or the more routine news of weddings, births, divorces, and deaths.

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Expenditure Patterns, Kingston, Jamaica, 1954

By

G. E. CUMPER

A sample survey of household expenditure in the Kingston metropolitan area was carried out in 1953-54. This project was one of a series planned by Mr. J. R. Goodman, United Nations Statistical Consultant to the Department of Statistics, Jamaica, and was executed by the Department and the Institute of Social and Economic Research, University College of the West Indies, in collaboration. Details of the organization of the survey are given in an official publication in which the results are analysed in sufficient detail to meet the primary purpose of "providing a basis for revising the existing Cost of Living Index". For various reasons it did not prove practicable for the Bureau to carry the analysis further at that time.

Since the publication of the first analysis in 1955 it has become increasingly clear that much useful information could be obtained by a breakdown of the expenditure data by income levels. The current development programme of the Government of Jamaica is likely to bring sufficient increases in levels of real incomes and sufficient economic expansion to raise problems of "balanced growth" and of the island's balance of payments — problems essentially of reconciling the future pattern of consumer demand and of savings with the effective resources. A re-working of the 1954 data was therefore undertaken in the hope that the results would throw some light on the probable future shape of demand patterns, and particularly on the probable changes in the allocation of consumption between local and imported goods.

A draft report on this analysis was privately circulated. The comments received showed that it touched on problems which were recognized to be important and which were worth further investigation. It has been agreed that the Central Planning Unit of the Jamaican Government will collaborate with the Institute of Social and Economic Research on a more detailed study of the material used here, of the similar material now available on household budgets in the rural areas of Jamaica and of the general problems of predicting the pattern of demand under conditions of rising incomes. The analysis given below should be looked on as an exploratory study designed to show some of the possibilities of work of this type, rather than an attempt to make a definitive prediction of changes in the pattern of consumption in Jamaica.

This analysis is based on a hand tabulation of the data from 1,180 of the original schedules. For certain purposes sub-samples have been taken from the larger income groups, and where this has been done the size of the sub-sample is indicated in the appropriate table.

It was originally intended to group the schedules by the total household income shown. Examination of the data showed that there were objections, practical and theoretical, to this course. The practical objection arose from the quality of the data on incomes, which were in many cases shown as markedly lower than the recorded expenditures. Some discrepancy of this kind is of course common in budget surveys, but in this case it was sufficient to cast doubts on the usefulness of the income data in the lower levels. Besides the normal errors of reporting, it seems probable that there was present a special cause for discrepancy in the existence of considerable numbers of households dependent on earnings which were irregular but considerable. Hence there might be found, in the sample, households of similar type and annual income, of which some, which happened to have received considerable earnings in the survey week, would be allocated to a disproportionately high income group, while others, having received little earnings in that week, would be assigned to a group too low. Since the questions to which the analysis was addressed were more likely to be answered by estimates of annual than of weekly income, if such had been available, it seemed best to treat as the household "income" the total recorded expenditure *plus* savings *minus* dis-savings. For simplicity this is referred to henceforward as the household income without explanation. This procedure has its own difficulties; in particular a household may be mis-assigned if it incurred in the survey week a heavy expenditure on an item of household equipment or durable clothing. To avoid this the classes V and VII (household equipment and personal clothing) were excluded in calculating the assumed income on which to assign a household to its appropriate group. Expenditure under these heads is included, however, in the detailed tables (IV, V and VI below). It should be mentioned that the view taken here implies that there is some kind of "carry-over" from one week to the next among households receiving irregular incomes. This is likely to take the form either of the accumulation and spending of cash hoards, or of the building up and liquidation of small debts. The former was not recorded in the survey; the latter was recorded, though how completely cannot be known.

TABLE 1. DISTRIBUTION OF HOUSEHOLDS IN SAMPLE BY REPORTED INCOME AND BY ASSUMED INCOME (EXPENDITURE + SAVINGS)

Income Group (£ per wk.)	Percentage Distribution of Households by:	
	Reported Income	Assumed Income
0 -	36.0	29.3
2 -	26.8	29.6
4 -	12.6	15.2
6 -	8.2	7.6
8 -	4.4	3.1
10 +	11.9	15.1
Total	100.0	100.0

The distribution of households by reported and by assumed income is shown in Table 1. This is by no means the same as the distribution of persons be-

tween different household income groups. The number of persons found in the average household increases steadily with increasing household income, as shown in Table 2.

TABLE 2. HOUSEHOLD MEMBERSHIP IN SAMPLE BY INCOME GROUPS

Income Group (£ per wk.)	No. of House- holds	Number of Persons Aged:				Total	Average Persons per Household
		14 and over		Under 14			
		M	F	M	F		
0 -	346	210	380	136	128	854	2.47
2 -	349	273	459	190	191	1,113	3.19
4 -	180	197	252	105	122	676	3.76
6 -	90	104	138	51	56	349	3.88
8 -	37	38	66	29	17	150	4.05
10 +	178	290	364	140	155	949	5.33
Total	1,180	1,112	1,659	651	669	4,091	3.47

Other differences between the average household from one income group to another emerge from Table 2. The sex ratio of the sample is low (757 males per 1,000 females) and the excess of females is found mainly among the adult members of the households in the lowest income groups. Many of these households, in fact, include no resident male adult. The question whether family size and the variations in occupational distribution from income group to income group (see Table 3) should be introduced into the expenditure analysis is discussed in more detail below. For the moment it is sufficient to stress that the "household" is a unit which varies considerably in size and structure, and these variations are correlated with variations in income.

TABLE 3. PERCENTAGE DISTRIBUTION OF HOUSEHOLDS BY OCCUPATIONAL GROUP, FOR INCOME GROUPS

Income Group (£ per wk.)	Percentage Distribution of Households in Income Group by Occupation of Chief Wage-earner:		
	"White-collar"	Skilled and semi- skilled worker	Domestics and labourers
0 - (47)*	4	36	60
2 - (46)	4	48	48
4 - (43)	16	65	19
6 - (42)	14	67	19
8 - (34)	24	56	21
10 + (44)	82	18	—

*This table is based on a systematic sub-sampling of the original sample. The number of households in the sub-sample is shown in parentheses against each income group.

The original schedules were organized on the basis of a division of expenditure into nine groups:

- I. Food expenditure.
- II. Miscellaneous housekeeping.
- III. House expenses (i.e. rent, utilities, maintenance, etc.).
- IV. Transportation.
- V. Household equipment.
- VI. Personal expenses (tobacco, food and drinks away from home, medical care, etc.).

VII. Personal clothing.

VIII. Miscellaneous expenditure and disbursements (including servants' wages).

IX. Credits, debts and savings.

Of these groups, the third (house expenses) was recorded on a thirty-day basis and the resulting figures have been divided by four to give the estimate of weekly expenditure shown in Table 4. Groups V and VII were recorded for periods which varied in length from household to household; the weekly expenditures on these items shown in Table 4 are based on the assumption that the average period recorded was twenty weeks.

TABLE 4. AVERAGE EXPENDITURE PER HOUSEHOLD BY EXPENDITURE CLASSES AND GROUPS (Shillings per week)

Income Group (£ per wk.)	I	II	III	IV	V	VI	VII	VIII	IX	Total
0 - (346)*	14.6	3.0	4.4	0.7	0.5	3.2	2.0	0.8	-4.8	24.4
2 - (349)	31.5	5.4	6.8	1.6	1.1	10.9	4.7	2.5	-0.9	63.0
4 - (180)	49.0	7.4	12.0	3.2	1.4	18.3	6.7	6.1	1.3	105.4
6 - (90)	62.7	10.1	14.8	6.4	2.4	25.9	9.2	11.6	3.8	146.9
8 - (37)	79.1	10.2	20.8	7.7	7.2	29.5	12.8	26.2	7.8	201.3
10 - (55)	98.6	13.7	33.6	11.0	4.2	40.0	15.5	31.9	12.5	260.6
15 - (36)	113.2	13.1	46.4	9.3	5.8	51.3	18.8	110.9	15.2	384.1
20 - (30)	144.2	18.4	80.0	11.0	11.4	59.5	17.9	95.3	44.7	482.3
25 + (57)	176.6	18.5	150.4	46.7	13.7	101.3	28.8	338.4	77.8	952.3
Total	48.6	7.0	19.0	4.9	2.4	19.7	7.2	27.3	5.0	141.16

*Number of households in sample shown in parentheses.

TABLE 5. PERCENTAGE DISTRIBUTION OF EXPENDITURE FOR EACH INCOME GROUP

Income Group (£ per wk.)	I	II	III	IV	V	VI	VII	VIII	IX	Total
0 -	60	12	18	3	2	13	8	3	-20	100
2 -	50	9	11	3	2	17	7	4	-1	100
4 -	46	7	11	3	1	17	6	6	1	100
6 -	43	7	10	4	2	18	6	8	3	100
8 -	39	5	10	4	4	15	6	13	4	100
10 -	38	5	13	4	2	15	6	12	5	100
15 -	29	3	12	2	2	13	5	29	4	100
20 -	30	4	17	2	2	12	4	20	9	100
25 +	18	2	16	5	1	11	3	35	8	100
Average	34	5	13	3	2	14	5	19	4	100

By far the most important expenditure class is food (Class I). Its importance declines markedly with increasing income, as does that of Class II (housekeeping expenses) and Class VII (clothing). Classes VIII and IX, on the other hand (miscellaneous expenditure and net savings) increase in relative size with increasing income. Class III (house expenses, mainly rent and utilities) shows a U-shaped distribution, with a greater relative importance among the very low and very high incomes, while Class VI (personal expenses, including tobacco, and meals taken away from home) shows the converse. Classes IV and V (transportation and household equipment) show no clear trend with increasing income, and account for less than 10 per cent of expenditure in all groups.

In interpreting these data there must be borne in mind, besides the cautions usual in all expenditure surveys, certain special factors. At higher income levels there is likely to be a certain substitution of consumer durables for current expenditures — the refrigerator replaces the daily purchase of ice, and the car the daily bus fare. Expenditure on such durables often takes place in lump sums at long intervals. Hence both the sampling error and the error arising from faulty memories or interviewing methods are likely to be larger at the higher income levels where the purchases of durable equipment are found. Further, the difficulty also arises of how far the relatively large net savings found among the higher income groups are short-term savings designed to finance the buying of such durables. If the levels of savings shown above are in fact likely to be dissipated in such purchases, and the purchases themselves are unrepresented in the survey (as seems quite possible in the case of cars, whose purchase price should theoretically appear under Class IV), then the savings levels shown are not a reliable guide to the effective net savings of the community. These difficulties are of course aggravated in a case like the present, where the analysis is being conducted at a considerable remove from the field collection of the data. In general, it seems likely from the foregoing considerations and from a general scrutiny of the data that the data on week-by-week expenditure are much more reliable than those for expenditure on durable goods and on services not paid for weekly (e.g. secondary school fees).

Two further points may be made about the expenditure patterns shown in Table 5. In assessing the practical importance of the variations associated with increasing incomes, it should be kept in mind that over the income range from £2 up to £8 per week (which includes over half of both households and persons in the sample) the pattern of distribution is fairly stable. Marked deviations from the average distribution pattern occur either in the lowest income group (which includes nearly a third of all households but accounts for only about 5 per cent of aggregate expenditure) or in the groups with weekly incomes of £10 and over (which include 15 per cent of all households but account for over 50 per cent of the aggregate expenditure of the sample). Generally speaking, we shall consider here mainly problems of aggregate expenditure, and shall therefore be more concerned with the latter groups; if we were considering the matter from the point of view of the social importance of primary poverty, our stress would no doubt be on the former group (households with incomes below £2 per week).

A second point: the large negative value of the savings figure for the lowest income group in Table 5 is noteworthy. Even if it is assumed to be exaggerated by mis-reporting, it appears to suggest that this group is unstable, its member households either moving into a higher group or dissolving after a short period, since it is hard to conceive of a household unit maintaining such a rate of dis-saving over a long period.

TABLE 6. AVERAGE EXPENDITURE PER HOUSEHOLD* BY INCOME GROUPS AND NATURE OF EXPENDITURE (Shillings per week)

Income Group (£ per wk.)	Imports:		Local Goods:		Local Services	Personal Services	Total
	Food	Other	Food	Other			
0 —	3.3	2.0	13.4	5.2	4.1	1.2	29.2
2 —	5.8	7.8	26.2	12.3	9.2	2.5	63.9
4 —	8.5	10.0	36.8	17.9	19.9	11.0	104.1
6 —	16.0	16.9	52.6	22.9	27.3	7.3	143.1
8 —	13.8	29.6	61.1	27.5	34.3	27.1	193.5
10 +	38.5	46.5	98.9	42.0	206.2	72.7	504.8
Total	11.4	13.6	38.1	17.0	41.2	15.6	136.4

*Based on sub-sample of 25 households from each income group, savings excluded.

The distribution of expenditure between imported goods, local goods and services is of some importance. An exploratory analysis of a sub-sample suggests that within the limits of accuracy of the survey (which, as already mentioned, may well underrate the purchases of durable consumer goods in the higher income groups) there is no consistent tendency for one end of the income scale to spend a higher proportion of income on imported goods than the other; but that the highest income groups show a much greater proportionate expenditure on services, and particularly on what are referred to in Table 6 as "local services" — rent, insurance, school fees etc. These groups also spend proportionately more on "personal services" — that is, direct payments for labour services, especially servants' wages — and considerably less than the lower groups, in percentage terms, on local goods. In effect, at higher income levels local services displace local goods as the most important channel of expenditure. It is important to note that no account has been taken in this breakdown of the import content of locally produced goods, which in some cases (e.g. bakery products) may be considerable, though the goods concerned are not of sufficient quantitative importance to affect the broad picture.

Given these preliminary facts, we may proceed to ask how they can usefully be applied to the problem of estimating changes in consumer demand in a period of rising incomes. We begin with a very simple calculation. Let us assume that the expenditure shown for each income group, expenditure class and type of expenditure in Tables 4 and 6 are stable coefficients such that under the further assumption of constant prices the proportionate distribution of expenditure in the population is determined only by the numbers (or proportions) of households in the given income groups. A given increase in average incomes can then be translated into a new income distribution in terms of the existing income groups, and the coefficients can be applied to this new distribution to give an estimate of the average distribution of expenditure at the new income level.

It is necessary for this procedure to make some assumption about the form of income distribution which results from the given increase in average incomes. A rigorous approach would require the calculation of the moments

of the present distribution and the construction of a new distribution for each new level of incomes. In the present case a simple, but far from rigorous, graphical procedure has been used for this purpose as set out in the Appendix.

The results of applying this approach to the data in Tables 4 and 6 can be conveniently summarized by calculating the proportion borne by the increase in percentage expenditure on a given item to the increase in average incomes with which it is associated. Over the range of increases in average income from zero to 75 per cent these "elasticities" are reasonably constant for each item, and the unweighted mean values for seven intervals covering that range are shown in Table 7.

TABLE 7. PROPORTION OF PERCENTAGE INCREASE IN EXPENDITURE ON GIVEN ITEM TO PERCENTAGE INCREASE IN AVERAGE INCOME

From Table 4:		From Table 6:	
I. Food	0.74	Imports — Food	0.91
II. Housekeeping	0.61	Other	1.01
III. House expenses	1.04	Local goods — Food	0.75
IV. Transportation	1.39	Other	0.74
V. House equipment	0.98	Local services	1.23
VI. Personal expenditure	0.90	Personal services	1.25
VII. Clothing	0.79		
VIII. Misc. expenditure	1.35		
IX. Net savings	1.83		

It will be seen that on this model the nine expenditure classes can be ranked in the order of their importance in the marginal aggregate expenditure of the population as follows: savings, transportation, miscellaneous expenditure (such as school fees, medical care and servants' wages), house expenses, house equipment, personal expenditure, personal clothing, food and housekeeping expenses. The six types of expenditure shown in Table 6 rank as follows: personal services, local services, non-food imports, food imports, local foods, other local goods. But before this ranking can be assumed to have relevance to the probable actual course of events, the assumptions made above must be relaxed and the effect of this relaxation considered. The questions which then arise can be divided into three: First, is income the most appropriate variable on which coefficients of the kind used can be based? Second, what is the nature of the coefficients — are they in fact likely to be stable, and do they relate to quantities or values? Third, is the resulting picture internally consistent when an attempt is made to translate it into real terms?

There exists a sufficient body of material on the relation between income level and expenditure pattern in other areas to establish that income has a good *prima facie* claim to be the most useful variable in predicting changes in expenditure patterns. But there are two others which have been commonly used as auxiliaries and which might conceivably in the Jamaican situation be equally important — family size and class. It has been shown above that in the present sample both these are correlated with income, as is to be ex-

pected. (It is, of course, possible to question the identification of class with occupational group on which Table 3 above is based, but no other convenient index is available from the present material). Given this high degree of inter-correlation of the three variables, and the relatively small size of sample available, it is very difficult to demonstrate the presence or absence of a significant relation between expenditure pattern and family size or class when income is held constant. The following discussion therefore has to be exploratory only.

The most suitable range of income for an exploration of the effects of occupation as an influence on expenditure pattern appears to be from £4 per week up to but not including £10 per week, since in this range all three main occupational groups (white-collar, skilled and semi-skilled, labourers) are represented in fairly constant proportions. From the sub-samples used for Table 3 the households with male heads were selected (the occupation of a female head being no very reliable guide to the status of the household) and the percentage expenditure on each of six expenditure classes (I, II, V-VIII) was calculated for each of the three occupational groups. The results show a tendency for the households of labourers to spend a rather low proportion of their income on food, in comparison with the other groups. But examination shows that this result is due mainly to the inclusion of a single large payment for school fees by one labourer household. This aside, the evidence for a difference in expenditure pattern between occupational groups disappears. On this admittedly weak evidence, class, as indicated by the occupational group of the household head, is not an important variable in our problem.

If we now examine the expenditure patterns of those households with heads in the middle occupational group and falling into the income groups £4 – and £6 – per week (thus giving a rough standardization by income and occupation) we find that there is some indication of an association between size of household and expenditure pattern, in the sense that the larger households show a larger proportionate expenditure on food and a smaller expenditure on clothing and household equipment. But the sample used is so small and the association so irregular that the only safe conclusion seems to be the negative one that these limited data have yielded no satisfactory evidence that class and family size need be introduced into the analysis as independent variables.

It is necessary to consider here another difficulty in the application of the material in Tables 4 and 6 to the actual situation. We have tacitly assumed that an increase in real incomes will affect the distribution of households between income groups in some statistically simple way (e.g. the specific assumption used in the Appendix). But the actual result may be more complex, since the size of household may be a function of available incomes. If, for example, a rise in general incomes increases the stability of low-income households (say, by permitting a labourer to "set up house" instead of carrying on

a casual association with a woman living singly) then the low-income households may be diminished rather rapidly in number by amalgamation, so to speak, with those further up the income scale. On the other hand, if a rise in real incomes induces a shift of married women from outside work to home-making (a trend for which there is some evidence at the bottom of the income scale), the cash income of the households which formerly included an employed wife will diminish, and the distribution will again be altered. At the other end of the income scale, the opposite may occur; higher incomes may permit the middle-class wife to leave her home duties to servants or to invest in appliances which will make it possible for her to go out to work, thus further increasing the household income of the households at the upper end of the scale. Such possibilities are hard to evaluate statistically but they would seem to point on the whole to such a shift in the income distribution between households as will reduce the lower tail of the distribution and increase the upper tail more quickly than would be expected from a mechanical interpretation of an overall income rise.

We must now consider the nature of the coefficients on which Table 7 has been based. Under the assumption of constant prices these can be interpreted indifferently as coefficients of the quanta consumed or of the expenditure on a given item. But if we relax our assumptions we must make some evaluation of the effects of supply elasticities on the situation. If the coefficients represent constant consumption of quantities, irrespective of price, we must recognize that for those items whose supply is relatively inelastic, the money expenditure at current prices is likely to rise more than is indicated by our analysis at constant prices, and that the process in fact implies a further increase in money incomes over that implied in our "elasticities" and a generally inflationary situation, with all its implications for income distribution. If, on the other hand, we assume that our estimates hold in terms of actual expenditure, the quantum represented by that expenditure will be less for those items whose supply is relatively inelastic. In fact the reasonable deduction would appear to be that both adjustments will take place — expenditure on items in inelastic supply will be more and the quantum of consumption will be less than the *ex ante* figures given in the Appendix.

We must also consider whether we should not take account, if we can, of all that is subsumed in the classical phrase "changes in taste". In a community undergoing such social and economic development as contemporary Jamaica, there is every likelihood that even over comparatively short periods the consumer of a given real income, class and family situation will change the priority he gives to various items of expenditure. Two factors probably operative are the influence of consumer patterns in neighbouring countries (particularly those of the United States as represented in films and magazines) and the effect of the last decade of rising money incomes and increasing social mobility in encouraging the consumer to adjust his expenditure pattern to

ward that of a higher income group. Such changes will probably on the whole tend to reinforce the effects of increased incomes set out in Table 7; for these factors converge in shifting the expenditure pattern of the lower-class consumer toward that of the middle-class, and the middle-class toward that of the upper-middle.

We now come to the question of the internal consistency of the results. Are the *ex ante* "elasticities" of Table 7 consistent with each other, with the general trends of Jamaican society, and with the income distribution on which they are based? This can only be answered in a very sketchy way, but some points seem worth making. The extremely high elasticities assigned to services point to a sharp increase in the incomes of two groups — the professional and white-collar worker (medicine, law, insurance, teaching) and the domestic servant. An increase in the supply of the former is in accordance with current trends in education and is quite consistent with the assumption that the upper end of the income distribution will increase sharply — more sharply, perhaps, even than the methods of the Appendix suggest. The supply of domestic servants, on the other hand, is usually an inverse function of general income levels, and on our premise of rising real income should fall off. If this is to be reconciled with an increase in expenditure on personal services it must mean a rise in income per head among domestics. In qualification, it should be pointed out that these data relate only to the urban population; there are other social and economic trends in the rural area which may maintain the supply of domestics by immigration to the city. But on the whole this line of thought gives some reason for thinking that the lower tail of the income distribution (representing mainly domestic's households) will contract more sharply than would be suggested by our assumptions.

The fact that the elasticities shown for imported goods, while less than unity, are nevertheless greater than those for local goods, calls for some comment. In the first place, the possible bias of the original data against the complete recording of expenditure on durable goods means that the imports of non-food goods are perhaps underestimated in Table 6. Further, the division into local and imported goods is based on the supply situation in 1954; since that date there have been a number of industries established in Jamaica to supply goods formerly imported or partly imported (e.g. textiles, made-up clothing, kitchen ware). Each such new industry means a once-for-all shift of the elasticities. Conceivably by now the relation between the elasticities for local and imported non-food goods has been reversed; it has certainly been modified. This point is reinforced by the fact that the creation of a new industry whose goods substitute for imports usually means a rise in the unit price of those goods (or a fall in quality, which comes to the same thing), while imported goods are in relatively elastic supply. Hence the shift in expenditure from imports to local goods is likely to be greater than would be predicted on the basis of our type of "coefficient" for the goods concerned.

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On the other hand, this tendency may be somewhat counterbalanced by increased imports of raw materials to feed certain of the new industries.

The coefficients for local food consumption deserve special consideration because of the complexity of the supply situation and the strategic position of the expansion of rural incomes in the development plan. The overall "elasticity" for local goods is rather low, implying that a given increase in general incomes will be accompanied by a less than proportionate increase in expenditures on local food. This would suggest that supply should adapt itself fairly easily to a situation of rising general incomes. But examination shows that the degree of response is likely to vary from one food to another, and is not necessarily correlated with the demand as estimated from our coefficients. Broadly speaking, we should expect annual crops such as ground provisions and green vegetables to respond more easily to increased demand than tree crops, such as breadfruit and most fruits, or livestock products; in both these cases the period of lag before new production can be reaped is likely to be long. But meat, milk and fruit appear from the present data to be the products for which demand is likely to expand fastest with rising incomes. Ground provisions, on the other hand, are likely to fall off in importance with rising incomes.

TABLE 8. PERCENTAGE OF TOTAL INCOME SPENT ON FOOD, BY SUBCLASSES, IMPORTED AND LOCAL, BY INCOME GROUPS

(£ per wk.) Income Group	Meat and Fish		Vegetables		Fruit		Milk, Fats, Cereals		Sweets and Miscellaneous		Total	
	I*	L†	I	L	I	L	I	L	I	L	I	L
0 -	2.3	11.5	-	10.6	-	1.4	7.9	18.3	0.9	4.2	11.2	46.0
2 -	2.2	9.3	-	7.9	-	1.3	5.1	18.3	1.7	4.2	9.1	40.9
4 -	1.6	9.2	-	8.9	0.1	1.4	3.7	12.7	2.7	3.1	8.1	35.3
6 -	2.3	10.6	-	8.6	0.3	1.6	4.4	11.7	4.2	4.0	11.2	36.8
8 -	2.2	7.7	0.1	5.6	0.2	1.6	2.3	11.7	2.0	3.7	7.1	31.6
10 +	2.4	5.5	0.1	3.5	0.5	1.2	2.5	6.8	2.1	2.4	7.6	19.6

* Imported

† Local

TABLE 9. PERCENTAGE SHARE OF CERTAIN BASIC FOODS IN FOOD EXPENDITURE, BY INCOME GROUPS*

(£ per wk.) Income Group	Rice	Bread and Flour	Starches† Traditional	Irish Potatoes
0 -	8.6	17.0	10.0	1.2
2 -	8.2	13.2	7.6	0.6
4 -	6.0	10.1	10.2	1.7
6 -	6.6	7.6	7.5	1.7
8 -	4.3	8.6	4.7	1.5
10 +	4.2	8.6	4.2	1.4

*Based on sub-sample of 25 households from each income group.

†Yam, coco, breadfruit, green banana, sweet potato.

We are justified in assuming that the pattern of demand will call for a shift of local production toward fruit and livestock products. Besides the natural inelasticity in supply already mentioned there are certain institutional complications in connection with these products. Bananas, for example, are grown for export and command a high export price; the supply response to

moderate increases in local demand and local price is not likely to be prompt. Citrus is also exported, but a moderate rise in local prices might well divert fruit from the export to the local market; this might however lead to secondary complications since the maintenance of the export market depends on keeping up minimum quantities and standards. Local beef production is controlled by official regulations which limit both the price and the number of head slaughtered, though small stock is not so controlled. Because of these difficulties it seems probable that increased demand will in the short term be absorbed either by higher prices to the consumer or by increased imports. Here again, therefore, there is reason to expect that the actual situation will call for more imports than our coefficients indicate and that the processes of adjustment will have some inflationary effects.

It is necessary to emphasize again that these conclusions are based on data for the Kingston area only. The generalization of these results to the whole island rests on the heroic assumption that the changes in expenditure patterns which will accompany increases in rural incomes are similar to those deduced for the urban area. It would, of course, be demonstrably wrong to assume that the existing patterns are the same for the urban and rural areas, but the assumption of similar *changes* is just sufficiently plausible to make the generalization worth while. It should also be pointed out that in practice, allowance must be made for increases of population if the procedure given here is to be used to derive quantitative estimates of demand.

To summarize: it is possible by detailed analysis of the expenditure patterns found in Kingston in 1954 to derive estimates of the expenditure by classes of commodities which will result from increases in general incomes. The procedure begins with certain unrealistic assumptions; when these are relaxed the estimates lose some of their air of precision, but are still sufficiently reliable indicators of the probable direction of change to be worth considering as guides to future policy, particularly when comparable data become available for the whole island.

APPENDIX

The "coefficients" shown in Tables 4 and 6 have been translated into the "elasticities" of Table 7 by the following procedure. The percentage of households in the sample above the starting point of each income interval except the first (i.e. £2, £4 and so on up to £25) was plotted against the logarithm of the starting point of the interval, giving a graph of the cumulative distribution in semi-logarithmic form. Similar graphs were then constructed corresponding to increases in the income figures of 10, 20, 30, 40, 50, 75 and 100 per cent; that is, the curve was shifted bodily to the right by the appropriate amounts, so that for example the point on the percentage scale which originally corresponded to an income of £2 per week successively corresponded to £2.2, £2.4, £2.6, £2.8, £3.0, £3.5 and £4. From this graph new per-

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centage values were read off corresponding to the original class intervals, and from these a new percentage distribution of households was constructed for each of the rightward shifts of the curve.

This procedure did not give a value for the lowest income point, and this was estimated by extrapolation — linearly for the most part, but with an arbitrary adjustment in the case of the two extreme shifts of the curve.

The estimated distribution of households by income groups for each shift of the curve was then applied to the original coefficients (Tables 4 and 6) to give average expenditures for each item and in total. It should be mentioned that the total expenditure corresponding to a 10 per cent rightward shift of the curve was not 10 per cent greater than the original total, because of the crudity of the procedure used. The percentage increase of each item, and of the total at each income level over the preceding level was then calculated. Finally, the ratio of the percentage increase on each item to the percentage increase in expenditure on all items was taken as shown in Table 7.

The object of the procedure was to make it possible without too much calculation to translate a given increase in average incomes (the type of statistic likely to be met with in practice) into an estimated distribution which would preserve the main characteristics of the original curve. So far as the original distribution has been distorted, it is probably by the rather rapid curtailment of the lower tail and expansion of the upper tail; reasons are given in the body of the article for believing these modifications to be realistic.

Hindu Marriage Customs in British Guiana.

By

R. T. SMITH AND C. JAYAWARDENA

There were some 118,095 Hindus in British Guiana in 1946 and this number has probably increased to about 160,000 at the present time. Most of them are descended from indentured immigrants who came between 1840 and 1917 to work on the sugar plantations of the Guiana coastlands. Whilst the majority belong to the "orthodox" British Guiana *Sanatan Dharm Maha Sabha*, there is a small but influential reform organization, the *Arya Samaj*. In this article we shall give an ethnographic account of the sequence of major ritual events connected with an orthodox (*Sanatan*) wedding in British Guiana.^a

Despite the fact that the original Indian immigrants to British Guiana were drawn from many different parts of India, there is a general uniformity in the main features of this *Sanatan* marriage ceremony throughout the country, and the Pundits' Council of British Guiana has discussed the question of promulgating a standard form of marriage ceremony in the same way that they have recently issued a booklet of daily prayers with English translations. Such variations as do occur in the marriage rituals are elaborations on the main ritual features, and depend upon the idiosyncracies of individual pundits. There is also a good deal of unorganized activity at a wedding with older people introducing odd bits of ritual which they think they remember, and even the central ritual actions are often quite meaningless to the participants. The officiating priest invariably explains some of the main features of the ceremony in English, since the majority of Indians in British Guiana no longer speak or understand Hindi. However, despite the substantial changes in original culture which have taken place in British Guiana, wedding ceremonies remain a focus of Indian group consciousness and are one of the chief occasions for group participation and for gift exchanges.

Selection of a Marital Partner

By the time a girl reaches the age of 15, her parents begin to think of finding a husband for her. Though the age at which girls are married is increasing slightly, it is not considered seemly for parents to have an unmarried daughter on their hands after she passes her twentieth year. Ideally a match should be made with a young man living outside the immediate local com-

^aThe observations on which this article is based were made by Smith in predominantly rice-growing communities in West Demerara and by Jayawardena in a sugar plantation area in Berbice. The publication of the material at this time is prompted by the appearance of a series of articles by Dr. Hilda Kuper on Indian marriage customs in Natal, and it is hoped that the material will provide an interesting comparison. (See 1, 2).

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munity, but it would be misleading to refer to this as "village exogamy". There is no specific ban upon marriage within the local community, and in fact many second or third marriages are contracted between members of the local community. A marriage between persons from two different communities "fits" the pattern of traditional ritual more closely, and it ensures that the friends of the groom will get a good outing to another village or estate. Whilst one does not normally marry a neighbour one does in the majority of cases marry (a) another Indian and (b) someone who lives within a radius of about 20 miles from one's birthplace. The ceremony requires that the girl should not have been married before. A man can marry by this ceremony more than once.

The name of a possible husband may be suggested by relatives from another community, or the services of a matchmaker (locally termed a "fix-up man") may be employed. In choosing a husband the main consideration will be his ability to provide a good home for the girl. Therefore young men with steady employment and a good education will be in great demand. Most parents try to ensure that their daughters are able to sew and may send them to one of the sewing classes held in some of the villages. If the girl can take a sewing machine to the marriage she is likely to make a better match.^a Her parents may also arrange to have her front teeth filled with gold as this is an added source of attraction.

Considerations of caste are not very important except in the case of *Brahmin* families. A *Brahmin* will be reluctant to marry his daughter to a *Sudra*, but even these scruples may be overcome if the young man is very wealthy or has a profession. *Brahmin* men frequently marry girls of lower caste origin, and the status of *Brahmin* passes from father to son irrespective of the mother's caste.

Once a suitable young man has been located (there are no preferential kinship marriages, and all relatives with whom a specific kinship tie can be traced are considered to be "too close"), and his family have signified interest through their intermediary, the girl's parents will pay a formal call upon the boy's parents. The young man himself must be consulted and if he is against the match the negotiations will have to cease. Assuming that the preliminary investigations yield favourable impressions on both sides, then each of the fathers will consult their respective pundits to determine from the Almanac whether the couple would be well matched and what would be the most auspicious date for the wedding ceremony. A formal engagement may be arranged, but this is not strictly necessary and is often omitted.

Betrothal (Tilak)^b

About four weeks before the date set for the wedding, printed invitations are usually sent out. Alternatively, or in addition, a man may be asked to

^aThe ability to use a sewing machine is valued because the girl will be able to make her own, and the children's clothes, not because she will be expected to earn money by sewing.

^bAll Hindi words in this paper have been rendered by the nearest English equivalent to the pronunciation heard in British Guiana.

go around inviting people. He gives a few grains of "*dai rice*" (rice, coloured yellow with turmeric) to the invitee, who in return gives him a handful, or a cupful, of rice for his services. Both the groom's and bride's parents send out their own invitations, each party meeting whatever costs are involved.

Today the general practice is to hold weddings on a Saturday night or Sunday, the "day wedding" being generally preferred to the more orthodox all night affair. About one week before the wedding, (and usually on the preceding Sunday), the betrothal (*tilak*) is held at the home of the bridegroom's parents. The bride's father, accompanied by his pundit and a small body of male relatives and friends, travels to the home of the bridegroom carrying the traditional betrothal gifts. The bridegroom and the bride's father, wearing *dhotis* as is normal for the chief participants in ritual acts, sit facing each other across the place of worship which has been marked out in lines of white flour on the earth. The officiating pundits sit on the other two sides of the square. Basically the ceremony consists of the *hawan* or fire ritual with offerings of flowers, *ghee*, rice, *sindoor*, sugar and water to the principal Hindu deities. At the conclusion of the *hawan* the father of the bride washes the bridegroom's toe and then presents him with a brass plate (*thalee*) containing a *dhoti* (or a length of cloth to make trousers), a *kurta*, (or more usually an ordinary white shirt), a bag of *metai* (sweetmeats), some rice, a dry coconut and a brass pot (*lotah*) containing money. The parents of the bridegroom usually elect to have the money publicly counted. The amount of money presented varies according to the financial and social standing of the parties involved. In the rice growing area studied by Smith it is rarely less than \$50.00 and may be as much as \$500.00 or more.^a In the sugar plantation area the amounts presented tend to be much less, normally varying from \$15.00 to \$20.00. There must always be some coins included in the amount, so that it is never a round sum of dollars.

It is during the *tilak* ceremony that one of the few references to caste occurs. The pundit asks for the *gotra* (originally the exogamous sub-caste group) of each party, and after some consultation with older people some vague answer is usually given. Nothing much is made of this, and one gets the impression that it is merely a formality. After the ceremony is finished the bridegroom must rise and bow to everyone present, after which he usually changes back into his more accustomed trousers, and a vegetarian meal is served to the guests.

Planting the Nuptial Pole

Some 48 hours before the time scheduled for the wedding a series of rites take place which are often collectively referred to as "digging dutty", (as well as by the Hindi term locally pronounced as *matti kore*), because it is at this time the women-folk go to collect a small quantity of earth which is incorporated in the foundations of the nuptial pole and in the hearth on which the wedding feast is cooked. These rites are performed at the homes of both

^a\$1.00 (B.W.I.) = 4s. 2d. sterling.

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bride and groom, but the following description concerns those performed at the home of the bride.

Every evening for a week preceding the wedding, female relatives and friends may meet at the home of the bride to sing songs to the accompaniment of a small drum, and to discuss the preparations for the wedding. The ceremony of "digging dutty" is the culmination of these nightly meetings, and together with the ceremony of "going for *lawa*" which will be mentioned presently, is the principal wedding ritual carried out by females.

At about 8 p.m. female relatives and friends begin to gather in the house yard, where two drummers and a *Nao*^a are on hand, being the only males who take part in this particular ritual. In the sugar estates area it is not usual for males to take part in this ceremony, whilst in the rice growing community it is the normal practice to use a male *Nao* and male drummers. The bride's mother is dressed in a new yellow *sari*. Led by the drummers and the *Nao* (or by the women drummers and the *Nao* in the sugar estate area), a procession forms up and moves off towards the nearest main road.

In the end of her *sari*, the bride's mother carries some rice mixed with *sindoor*, sugar, etc. When the procession reaches the main road, (which is metalled with red clay or "burnt earth" in rural British Guiana), the women form a circle around the drummers, the *Nao* and the bride's mother. Light is provided by a lantern brought along for the purpose. The *Nao* carries a wooden tray bearing objects which will be used in the rites. In one case they included the following:

A few leaves from a vine, known as *Pan* leaves; mango leaves; bougainvillea, hibiscus, and other flowers; an enamel cup containing soaked split peas; a small pot containing boiled milk; *sindoor* in a twist of newspaper; sugar in a twist of newspaper; coconut oil in a bottle; a small jar containing *ghee*; a brass pot full of water; a few large *supari* seeds; pieces of pitch pine and a box of matches; some strips of specially knotted yellow cloth; a packet of flour.

The bride's mother takes water from the brass pot and washes the blade of a hoe which has been brought by one of the women. The *Nao* lays out a rough pattern in flour on the road on a spot that has been cleared, using another hoe. On this spot he lays five pieces of *Pan* leaf and on each piece the bride's mother places oil, *sindoor*, peas, sugar and flower petals. A small butter lamp is now lit and passed over the spot.

An old woman^a takes the previously washed hoe and digs out five small quantities of dirt which are thrown into the end of the bride's mother's *sari*, there to mix with the rice, *sindoor*, etc. Another woman takes a little oil and *sindoor* and places it in the parting of the hair of the bride's mother, who does the same in return. *Metai* or sweetmeats are now distributed and all the

^aThe *Nao* is technically a barber, but the term is used to refer to anyone who fulfils the functions of a ritual assistant whether he is actually a barber or not. In the sugar estate area a female ritual assistant may be employed for this part of the *matti kore*. She is referred to as a *Nao* and also assists during the actual wedding ceremony.

^aWhether she is normally a relative of the bride or not is not clear, but in the sugar estate area she is referred to as the *barka bahan* and is given a small gift of money by the bride's mother. No one could explain why she is called *barka bahan* nor could they say that she is always a kinswoman.

women begin to dance with exaggerated sexual gestures, singing lewd songs in Hindi.^a Before moving off to return to the house, all the objects lying on the road are gathered up and thrown into the drainage trench by the roadside. This ritual is one of the most essential parts of the orthodox marriage ceremonies, and is most frequently attacked by the reformists as being "uncivilized".

On their return to the house the women seat themselves around the yard to witness the planting of the nuptial role. A pundit must perform the ritual associated with this. The bride (who did not take part in "digging duty") is brought from the house covered from head to foot in a white or yellow sheet. She is escorted by her *baugi* (elder brother's wife, real or classificatory) who sits behind and guides her through the ritual. The *haris*, a piece of wood dyed yellow in turmeric water, with five notches cut in it and said to represent a plough-share, is already planted upright in the ground behind a low altar built of mud and cow dung. In front of the *haris* is an earthenware pot plastered with cow dung and *padi* grains and containing water. The bride now follows the pundit through a *puja* or offering in which turmeric, *sindoor*, rice and sugar are placed in nine spots on a mango leaf, as well as on the *haris* and the earthenware pot. Further offerings, including some coins and part of the road dirt, rice, etc. brought by the mother, are thrown into a hole dug behind the *haris*. A tall bamboo pole is planted into this hole by five men. The *Nao* ties the pole to the *haris* with two strips of cloth dyed yellow in turmeric water. Another piece of this cloth is taken by the pundit and tied around the neck of the earthenware pot, and both the bride and the bride's mother have a piece tied around their right wrist. These bangles (*kukan*) remain in position until they are ritually untied on the morning after the wedding.

As a final part of this ritual the pundit takes a bundle of *barima* grass the end of which is dipped in a mixture of *ghee* and turmeric and with it he touches the bride on her feet, her knees, her shoulders and her head. He then breaks the bundle into two smaller bundles and hands them to a young female, who, holding a bundle in either hand, presses them on the bride's feet, knees, shoulders and head. Theoretically this preliminary anointing should be carried out by three young virgins, but one often sees the operation performed by a stream of young girls and sometimes even by a married woman. The evening's public ceremonies end with the serving of coffee and biscuits, whilst the bride is taken indoors to have her body rubbed with *dai*. This is done only once, and in the case of the bridegroom it is often omitted altogether or he has merely a part of his body anointed with *dai*.

Lawa Ceremonies

On the day preceding the wedding a procession of women attended by drummers carry a quantity of parched rice or *lawā* to the home of a kins-

^aThe themes of these songs tend to stress references to the sexual organs, and to women seducing the husbands of their friends and kinswomen.

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woman of the bride's father (usually his sister or his brother's wife, but it may be almost any relative living nearby). It is left here until just before the wedding begins when a similar procession of women goes to "fetch *lawá*". During the wedding ceremony itself this *lawá* is mixed with that brought by the bridegroom's party and thrown onto the sacred fire by the bride and groom during the rite of circumambulation (*saptapadi*).

The Katha

In the afternoon of the day before the wedding a special *katha*, or sacred reading, is held by the parents of the bride and groom at their respective homes. A pundit, of course, conducts this ceremony, which is essentially an act of devotion on the part of the parents.^a

Cooking of the Marriage Feast

On the night preceding the wedding ceremony, friends, relatives and neighbours gather at the home of the bride or groom, as the case may be, to assist in the preparation of the marriage feast. The principal task is the mixing and baking of the *roti* or *puri*, and for this a large number of women is required since it is usual to prepare food for a great many people. The work is carried out in a festive atmosphere; music may be provided and rum will almost certainly be available for the men. The rice, *dahl*, and curry is prepared under the supervision of one or more men, and whilst women may assist in some way, it is recognized that men are in charge of the cooking and the distribution of food.

The Wedding

In the past it was customary for all orthodox *Sanatan* weddings to take place during the night, and whilst night weddings are sometimes held there is a growing preference for day weddings. It is said that day weddings are less likely to result in fights and brawls, and it reduces expenditure considerably if the groom's party is not accommodated and entertained overnight. The following description is of a day wedding.

Early in the morning of the wedding day, friends and neighbours come to the house of the bride where the main wedding ceremonies are to take place and some of them help with the final stages of the cooking. The *Nao* arrives early in order to build the *maro* (the booth where the wedding will take place) and to prepare the marriage altar. The *maro* is a small bamboo enclosure built around the marriage altar and it is brightly decorated with coloured streamers, flowers, lanterns and sometimes small electric lights. The central bamboo pole is sheathed in banana stems into which artificial flowers or other decorations are stuck. At the foot of the bamboo pole in front of the *haris*, a small altar is built using mud and cow dung and this is

^aIn Jamaica, this ceremony has come to constitute the last vestige of Hindu marriage ritual amongst the majority of Indians of Hindu extraction. Most Indians in Jamaica marry according to Christian rites, but many in addition keep a *katha* in the evening before the day of the Christian ceremony.

decorated with squares of coloured rice grains. The earthenware pot or goblet that was used on the night of the *matti kore* may be painted and decorated with brightly coloured spots of paint and with grains of rice or *padi*. A grinding stone and mortar are also placed by the altar.

About one hour before the appointed time of arrival of the bridegroom, a large group of women relatives and friends form up into a procession led by the bride's mother wearing her best clothes, all her jewellery and a new yellow *sari*. Accompanied by drummers they go off to "fetch *lawā*" from the home of the relative to whom it was carried on the previous day. This is brought back and set aside to be used in the wedding ceremony.

As the guests of the bride's family begin to arrive they are seated on benches, outside the *maro* but underneath a tent which has been erected for the occasion. This consists of a large awning covering most of the space on one side of the house. Womenfolk usually find seats on the ground where sheets or rice-bags will have been spread, sometimes underneath the house itself.^a The old women may sing a few appropriate Hindi songs (if anyone can remember them), but traditional wedding songs and music are being replaced by electrical amplifiers playing recorded Hindi film music. The father of the bride and his pundit will be attired in the appropriate ritual dress consisting of a *dhoti* and a loose white shirt or *kurta*. All is now ready for the arrival of the bridegroom and his party.

At the home of the bridegroom the groom will have been dressed in ordinary Western dress, including a new white shirt and probably a tie, jacket and trousers, and over these ordinary clothes he will be robed in a long, colourful yellow or pink satin jacket reaching to the ground. On his head will be set an elaborate head-dress built up from brightly coloured paper beads, tinsel and little mirrors, mounted on a framework of wire and bamboo and having a beaded veil covering his face. This is called the *maur*. Attended by his *siballa* (usually a younger brother or cousin) and accompanied by his male relatives and friends he will then be ready to leave by motor-car for the bride's village. Weddings are the occasion for celebration, particularly by the young male friends of the bridegroom who make up the bulk of the *bariat*. The groom's party, or *bariat*, heralds its arrival at the bride's village by an insistent sounding of horns, and for added effect an amplifier through which recorded Indian music is played at full volume may be carried in one of the cars. The *bariat* stops some little distance from the home of the bride's father and the party alight.

Attended by his pundit and his *siballa*, and led by his father and close male relatives, the bridegroom advances slowly towards the bride's house. He is met by the bride's father also attended by his pundit and surrounded by his male relatives and friends. As they approach each other, the drummers beat a rapid rhythm and fireworks may be set off. This meeting of the two parties is known as the *milap* (or colloquially as the "meeting up") and when they

^aThe majority of houses in British Guiana are built on piles and raised three to seven feet from the ground.

meet the bride's father presents the groom's father with a small gift of money. The two parties then move towards the gate of the wedding house where they sit upon sheets which have been specially spread. Here a ceremony is performed known as the *dwar puja*, or the ceremony at the gateway. This is a general ceremony of welcome but it is no longer performed except during weddings. During the course of the *dwar puja* the bride's father again presents a small cash gift to the father of the groom. The bridegroom then passes through the gate of the bride's home, there to be welcomed by the women-folk in a ceremony known as *parchan*. The bride's mother and some of her close female relatives take a plate containing burning camphor and a *lotah* full of water and pass them around the head of the bridegroom. Another group of women may chant songs of abuse about the bridegroom, who, they say, has come to steal away their daughter. These songs are gradually being forgotten and are rarely sung nowadays. During the *parchan* the women present the bridegroom with a small gift of some coins or a piece of crockery. After this small ceremony the bridegroom and his party are led away to the *janwas*, or place of rest, which is usually a house specially set aside for that purpose some short distance from the wedding house. They are followed shortly afterwards by a small party consisting of the bride's father, his pundit, a *Nao* and a small body of male relatives and friends. Upon their entering the *janwas* they sit facing the bridegroom's party for the ceremony known as *ageea*.

During the course of the *ageea*, the two pundits exchange complimentary speeches in Hindi, each extolling the virtues of the other family. At the conclusion of the ceremony the bride's father gives to the bridegroom a small token meal consisting of *roti*, *persad* (a sweet cake used on ritual occasions) and water. To the bridegroom's father he presents a small sum of money. The bridegroom now remains at the *janwas* whilst his father, his pundit and male relatives accompany the bride's father back to the wedding house. Meanwhile the bride has been ritually bathed, her nails are cut and a pattern painted on her feet in red dye by the *Nao*. Mixed with the water in which she bathes, is a small quantity of water brought in an earthenware vessel by the bridegroom's party. This water formed part of that in which the bridegroom himself was bathed before he left his home.

The bride, her head, face and body covered with a white *sari*, is now brought from the house into the *maro*. Just before she enters a ceremony called *imli glottai* takes place. The bride's mother's brother presents a gift (usually a dress or a dress-length) to the bride's mother and they, together with the bride, each take a bite at a mango leaf. The bride is now seated for the *dal puja* or presentation of gifts by the bridegroom's elder brother. These consist of "going away clothes" in which the bride will leave at the conclusion of the wedding, and of jewellery. As an accompaniment to this the bridegroom's elder brother garlands the bride with a coloured woollen thread and places upon her head a small coronet. It is explained to the bridegroom's

elder brother that this is the first and last occasion on which he should have any bodily contact with his younger brother's wife. Avoidance between the married woman and her husband's elder brother (her *barka*) is the rule, but in practice this amounts to little more than a certain formality and constraint in the relationship. On the completion of the *dal puja* the bride returns to the house.

The Central Marriage Ceremony

The next series of rites constitute the central part of the wedding ceremony. The bridegroom, fully attired in his robe, his *maur* and wearing a special sash, returns to the *maro* and sits on a low bench (*perah*). The bride's father takes a brass *lotah* containing water and offers it to the groom to drink. He next washes the groom's big toe as a sign of the humility with which he is commending his daughter to the care of her husband, and in return for which he expects her to be well treated. After the reading of excerpts from appropriate sacred works the bride enters the *maro* and the ceremony of *kanya dan* (literally virgin giving) takes place. This is the "giving away" of the bride by her father, and is followed by the *gupta dan* (gift in secret). A ball of dough containing a dollar note and a few coins (representing gold, silver and copper) and a hibiscus flower is presented by the bride and her parents to the bridegroom.^a The bride holds the ball of dough in her outstretched hand which she rests on the hand of the bridegroom. Her brother pours a steady stream of water from a brass *lotah* over the ball whilst the pundit recites appropriate words. The ball of dough is often constructed with a fold to represent a vagina, so that the bridegroom's extraction of the gift is symbolic of the breaking of the hymen. In many cases this symbolism is forgotten or neglected and the ball of dough is made perfectly smooth. At the conclusion of the *kanya dan* and *gupta dan* the bride takes her place seated on the right hand of the bridegroom, in readiness for the next ceremony of *pau puja*. Here the father of the bride washes the bridegroom's big toe and anoints both bride and bridegroom on the forehead, prior to making gifts, which in the sugar area usually amount to a few dollars, but which may include cattle and even land in the rice-growing community. He is followed by a succession of relatives and friends of the bride's family, mainly women, who also wash the feet of both bride and groom and anoint them prior to presenting a gift. This presentation is called *neuta* and the amount of each gift is entered alongside the name of the donor in the family "invitation book". This book is carefully kept and referred to whenever the family is invited to another person's function so that a reciprocal gift can be made. Such gifts usually consist of money, glass dishes, or occasionally a small piece of gold jewellery such as a tie-pin.

When all these gifts have been presented, the bride and groom then follow the pundit through the *hawan* or fire ritual. This is an essential part

^aIn some cases where the families are more wealthy, a watch or a gold ring may be substituted for the money.

of the ceremony which cannot be omitted, and which forms the core element of all Hindu worship. Bride and groom make offerings of *ghee*, flower petals and water to the sacred fire, and they also offer a little of the parched rice (*lawā*) brought from each home and mixed by the bridegroom's *siballa*.

Next comes the exchange of vows between bride and bridegroom, the promises being repeated after the pundits who recite them in Hindi. At this point the pundits make a short speech in English explaining the import of the vows to the audience and to the young couple. We give here a typical speech, but sometimes a particularly talkative pundit will elaborate his speech considerably:

"We have just witnessed that part of the ceremony where the bride is being given away by her father, and, for the benefit of those friends here tonight who are not Sanskrit scholars, I propose translating it into English in my own way.

"The bride's father thus addressed the audience and the bridegroom especially: 'I, of the *Kasyap Gotra*, in the presence of *Brahma*, *Vishnu* and *Mahesha*, (also known as the *Trimurty*), The Sun, the Moon and the Stars, The Heaven and the Earth and this Assembly on this night of of the year am giving in marriage my daughter to you of the said *Gotra*.

"She is of tender age and very inexperienced with the intricate paths of the world, and will need all the advice and teaching you can give her.

"If her ways and habits are not in accordance with yours it is for you to change them to your way of thinking by gentle admonitions and good examples.

"If at any time any wrong be committed by her, either knowingly or otherwise, I trust that you will remember the humility with which I am placing her in your care, and remembering, will exercise forgiveness and by mild reproof endeavour to prevent further occurrences, rather than adopt the harsh and cruel method of putting her out of your love and protection'.

"We have just witnessed that part of the ceremony when the irrevocable union is about to be entered into. Before committing herself the bride addresses the bridegroom thus:

'Beloved, I am now about to leave the loving protection of my parents and the home of my birth, to live henceforth into your life, to live henceforth under your love and protection, to partake and share with you both of pleasure and of pain, of affliction and of poverty; however before sitting on your left side as your bride, I must insist on your giving to me here and now, your promise of your constant obedience to the following conditions:

1. If at any time in the future it becomes necessary for you to go on a pilgrimage or to attend any religious undertaking, I desire that my consent be asked and obtained, and that I may be allowed to accompany you, if possible.
2. If at any time it is your desire to offer praises to God on behalf of your departed relatives, I am desirous of being asked to join in such praise.
3. If at any time it may please God to cause poverty to enter into the house of my parents, you, as my husband, are expected to render whatever assistance you can to relieve their distress.

4. If at any time you have occasion to make presents, or to receive gifts, or lend or borrow, I request that my consent be asked and obtained.
5. If at any time you desire to erect a Temple of God to offer praises to Him, I ask that I may be allowed to join.
6. If at any future time the occasion arises for you to leave your home and go abroad, whether on pleasure or business, your paramount duty will be the assurance of the welfare of your home during your absence. I also insist that my consent be asked prior to your departure.
7. Lastly I ask not to allow your affection for me to grow less. Let it mature with age, and not allow notices of any unworthy or dishonourable man to come between us. As tonight we are being joined together with the bonds of our mutual love, and the sacred ceremony of our marriage, so let us remain united until the end of our lives.'

The bridegroom replied thus: 'The promise of obedience to the seven conditions you have just enumerated I freely give, and with pleasure, and call upon *Brahma*, *Vishnu*, and *Mahesha*, (known as the *Trimurty*), the Sun, the Moon and the Stars, the four winds of the Earth and this vast Assembly, that is gathered here tonight, to be witnesses of my promise to you.

'Having acceded to your request, it is but fair that I in return should expect from you the similar request of the following five conditions:

1. I expect you to conduct yourself in society in a manner which will never bring disgrace or dishonour to our honourable name.
2. In my absence you are expected to accommodate or entertain any acquaintance or visitors to our home, according to our means and their social standing; and your conduct to them should at all times be beyond reproach.
3. Should there ever occur at any time any domestic difference or friction between us, you will bear in mind that such difference does not exist exclusively in our home; it is a curse or blessing that exists in every human home; you are therefore not supposed to leave my home and protection for one and every such difference; for such an action would lead to public scandal and ultimate separation, which are not consistent with the domestic history of our forefathers.
4. You are to be punctual, regular and careful in your domestic duties, so that I, your husband, may be not made to suffer any inconvenience.
5. Tonight, by the Grace of God, I hope to share with you a comfortable home; but should at any time adversity be our lot you are expected to share it with me as readily and hopefully. Not that when adversity comes to us, you leave me to my own devices and find a more comfortable home. As I have promised to love, obey and cherish and work for you, therefore you should do the same to me, should it be my lot to suffer from any serious malady or accident that would make me incapable of earning a livelihood.'

"The bride replied as follows: 'I readily give the required promises, and call as witnesses *Brahma*, *Vishnu*, and *Mahesha*, (known as the *Trimurty*), the Sun, the Moon, the Stars, the four winds of the Earth, and this vast Assembly present tonight'."

On completion of the pundit's speech the bridegroom's sash is now knotted to the end of the bride's *sari* and the couple circle the sacred fire seven times in a clockwise direction, throwing a little *lawa* onto the fire each time. For the first four turns the bride leads the groom, and then the order is reversed for the last three turns. At each turn the bride's younger brother hands the leading person a small amount of *lawa* on a special small tray. This rite of circum-ambulation is referred to as *saptapadi* (seven steps) or *satbawan*. At some weddings, particularly those of members of the *Arya Samaj*, the couple actually take seven steps forward instead of circumambulating the sacred fire. On resuming their seats the bride now sits upon her husband's left hand as is proper for a wife.

For the next rite the bride and groom squat facing each other and the groom opens the bride's *sari* to look at her face. The couple are then covered with a white cloth and the bridegroom performs the *sindoor* *dan* by rubbing a vermilion powder (*sindoor*) down the parting of the bride's hair. This rite is considered to be the culminating point of the whole ceremony marking the bride's transition to the married state. Upon its completion the couple, their garments still tied together, move into the house each carrying handfuls of rice.

Meanwhile the guests are being served food. There is no particular time for the food to be served; many people have to be fed and so the sooner they start the better. The vegetarian meal of rice, *dholl*, curry, *roti* and perhaps sweet rice (*kir*) is served on water lily leaves which are discarded after use. There is no particular significance attached to eating together and no restrictions along caste lines are observed. At a wedding involving more wealthy families, special provision will be made for higher status guests to eat separately, and knives and forks will probably be provided. Higher status here refers not to caste but to class status in Guianese society.

The bride and groom on entering the house are led to a specially prepared place (*kohobar*) where a drawing has been affixed to the wall, usually depicting a house, a tree, a bird, a female figure, etc. Here, surrounded by females, the couple "play games" and the groom is mildly teased by the women. After presenting him with a small gift, the bride's mother removes the groom's head-dress (*maur*). Then follows a play with the rice that the couple had brought in with them. Another game consists in an elderly female relative's dropping a piece of jewellery, usually a silver necklace, into a pan of water; the bride and groom both snatch at it to see who gets it first. This necklace is a gift to the couple from the bride's parents. Other relatives of the bride may also make gifts at this point. The knot joining the clothing of the couple is now untied, and the bride goes off to change into her "going away clothes".

For the bridegroom there is another ceremony to be performed. He, along with his male kinsmen, enters the *maro*, and they all sit in a circle. Special food, (*kichree*) from which this ceremony takes its name, is placed before them and they are invited by the bride's father to partake of it. They always refuse until they have been presented with gifts of money sufficient to satisfy them. The bride's father and his relatives enter the *maro* and place money before the various men, the largest amount always being given to the bridegroom. One of the groom's party checks the total amount, and when they are satisfied that they have enough they then eat a little of the *kichree*.

At the hour previously appointed by the pundit, the groom's party prepare to depart with the bride. Before doing so the groom's father enters the *maro* and taking hold of the central pole shakes it gently to show that he is satisfied. The bride's father then gives him a gift of money and the young men of the groom's party strip off the decorations to carry away as trophies. This is known as the *maro hilai*.

The bride, dressed in the clothes and jewellery presented to her by her brother-in-law, again has her garment knotted to the groom's sash and they enter the motor-car in which they will travel to the groom's home. The bride is accompanied by her sister or elder sister-in-law (*baugi*).

On arrival at the groom's home the couple are welcomed by his mother who passes fire and water around their heads, before they are taken to a *kohobar* like that at the bride's home. Here the knot joining their clothing is untied, and then the ceremony of *moo dikhai* takes place. Gifts are presented to the bride by guests of the groom's family "for seeing the face". The same sort of games that were played in the *kohobar* at the bride's home are now repeated. Festivities continue throughout the night for the entertainment of guests.

Early next morning the couple go out to sit before the bamboo pole, *haris* and altar erected in front of the groom's house, and the ceremony of *kakan choraway* is performed. All the knotted yellow "bangles" are untied, and the couple then retire to bathe off all the *dai* from their bodies. At about the same time a similar "disbanding" is taking place at the bride's home, and at both homes all the ritual objects used in the wedding are taken and thrown away in one of the drainage trenches. Only the bamboo pole and the *haris* are left standing in the ground, and these must not be removed until the *haris* rots away.

Later in the morning, at an hour fixed by the pundit, the bride is collected by her brothers who come to carry her back to her mother's home. Here she is greeted again with fire and water, by her mother. For the next six or seven days she resumes her old life in her parents' home until the day one week after the wedding (often called "second Sunday") when her father-in-law comes to take her away for the last time. He is entertained and feasted, usually with a meat (mutton, goat or chicken) curry, but there is little joy and the actual parting is accompanied by manifestations of real grief on the part of her close relatives. This is by no means a final parting, but the young bride has now become a member of a different household under the authority of her husband and his parents. She will return to her mother's home to bear her first child, and in many cases her first children. The marriage is only consummated after this final separation of the bride from her natal home. The young couple have their own room or rooms, and under normal circumstances they will break away and set up their own household in a separate house before very long.

CONCLUSION

In the above description we have outlined the main features of the orthodox (*Sanatan*) marriage ceremonies as they are performed in British Guiana today. In attempting to interpret these ceremonies the anthropologist is tempted to treat each element of the ritual as having a symbolic meaning which can be linked to some aspect of the social structure of the Indian group; in other words to treat the Indians as if they were living in a self-

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contained society in which there is a high degree of integration and consistency between all the parts of the social structure and between the social structure and an "Indian" culture. In fact this is not so; the Indians are a sub-group of a larger social system, and the structure of social relations within this wider system has to be considered even when dealing with apparently "pure" Indian customs.

The fact of performing this marriage ceremony at all is in itself symbolic of the participants' position in the Guianese social system. The strict performance of all the ritual actions involved in an orthodox wedding has its own value for the participants because it is thought to be the proper "Indian" way of doing things, irrespective of whether each element has meaning in itself. Not all Hindus marry according to *Sanatan* rites. Members of the reformist *Arya Samaj* specifically condemn some of the ritual elements such as the *matti kore* and the *kichree* ceremony, and exclude them from their wedding ceremonies. The exclusion of these allegedly "superstitious" or "uncivilized" elements becomes a symbol of "progressiveness" mainly in terms of Guianese and Western European social values. Many of the more sophisticated middle-class Indians abandon the ceremony altogether in favour of a Christian marriage or combine it with such specifically Guianese and European elements as a wedding reception with a cake, toasts, speeches, and ballroom dancing.

Another noteworthy aspect of this orthodox wedding ceremony is its function as a *rite-de-passage* for the individual. There are three main categories of marriage entered into by Hindus in British Guiana. A couple may marry according to *Sanatan* or the modified *Arya Samaj* rites; they may contract a legal marriage, with or without a religious ceremony; or they may enter a common-law union without any public celebration. First marriages are almost invariably contracted according to Hindu rites and only a small percentage of them are simultaneously legalized. There are extremely few individuals who do not marry at least once, and therefore almost every individual has been through the ritual in early adulthood. An unmarried adult female is a reproach to her parents, whilst an unmarried adult male is regarded as being rather immature unless he has a high status occupation to balance his bachelor state. Hindus in British Guiana are very much aware of the doctrine recognizing several ideal stages in the individual's life-cycle—the youth or disciple (or *Brahmacharya*), the householder (or *grihasti*), the ascetic (or *sannyasi*) etc. Marriage represents a transition from the stage of youth to that of adult. Many of the ritual objects prominent in the ceremonies, the gifts at the *tilak*, and the mortar and ploughshare at the marriage altar, are supposed to symbolize the domestic state of the householder. This *rite-de-passage* aspect of the marriage ceremony underlines the social immaturity of the bachelor; it is one of the few points at which the ritual directly reflects social values. "Dai nah rub he skin" (see page 5 para. 2) is an expression referring to the callowness of a "beardless youth." It is significant that in

the ceremony of initiation for young male members of families claiming birth into the three highest *varnas*, the *janeu*, an altar similar to the marriage altar is used, and the ceremony is described as being "half a marriage". Here the passage is from the status of child to the status of youth.

Even though it is true that the individual elements in the ceremony are imperfectly understood and subject to conflicting interpretations, a wedding does activate a large number of kinship, neighbourhood and friendship relations and many of the ritual actions and gift exchanges symbolize these relations.

The gift exchanges themselves are of particular interest. The giving of gifts is one of the most striking features of the marriage ceremony. Practically every ritual expression of a social relationship is marked by a gift, and so gifts are presented at all important stages of the ceremony. During the ceremonies, from the betrothal to the departure of the bride, the gifts are largely exchanged between the families of the bride and the groom. The other gifts pass to the bride and her parents from their friends and relatives. The following is the sequence of gifts, with estimated amounts. These estimates are based on minimum amounts; the value of the gift varies with the wealth and circumstances of the donor, and, theoretically, there is no ceiling to the amount that may be given.

- (i) At the *tilak*. The bride's father gives a gift to the groom.
This gift usually consists of:
 - (a) a suit of clothes or a shirt and a length of cloth to make trousers.
 - (b) a brass vessel (*lotah*) and a brass dish (*thalee*).
 - (c) a sum of money in the brass vessel. The sum must be an odd number of dollars, and should contain some coins. It is usually \$15.00-\$25.00 plus a few coins.
 - (d) sweetmeats (*metai*).
 - (e) a dry unhusked coconut.
- (ii) Close relatives and friends of the bride's father give him gifts in kind (sometimes cash) when he announces to them the date of his daughter's wedding. These gifts are contributions to the wedding expenses. Usually $\frac{1}{2}$ bag of rice or flour, or $\frac{1}{2}$ gallon of split peas, or 30-40 lbs. of potatoes etc., or \$5.00 in cash from each close relative, particularly from his brothers.
- (iii) At the *matti kore* the elderly female relative who digs up the earth is given a gift by the bride's mother (usually \$1.00).
- (iv) *Milap*. The visiting party of the groom's family and friends are met on the road and greeted by the bride's father. As the latter shakes hands with his *samdhi* (father of child's spouse) he passes the groom's father some money (usually \$1.00).
- (v) During the *dwar puja*: from the bride's father to the groom's father (usually \$1.00).
- (vi) During the *parchan*. Gifts from the bride's female relatives to the groom (usually coins—12 cents to 25 cents). Sometimes glass or china ware may be given.
- (vii) During the *janwas* ceremony: from the bride's father to the groom's father (usually 25 cents).
- (viii) *Imli glottai*. While the *ageea* is going on, the bride's mother's brother dips a mango leaf in water and gives it to the bride's mother and the bride, who bite it in turn. On this occasion the mother's brother gives the mother a gift, usually a dress or dress length (\$5.00-\$10.00). Other siblings or close relatives of the mother may also give her similar gifts.
- (ix) *Dal puja*: from the groom's elder brother (really from the groom's family) to the bride; usually "going away" clothes, shoes, and jewellery. The jewellery consists of a gold necklace of a traditional pattern (a necessary item) and a ring, a bracelet and earrings (optional but usually given); cost about \$100.00 to \$125.00.

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- (x) *Gupta dan*, the "Secret Gift": a lump of dough, inside which is a hibiscus flower, and gold, silver and copper, represented by a dollar, a 25 cent piece and a cent. i.e. \$1.26.
- (xi) During the *pau puja*: from the bride's father to the groom (usually \$2.00).
- (xii) *Kichree kawan*: from the bride's father to the groom. Sometimes the bride's father's relatives and friends may join in (usually about \$3.00-\$5.00).
- (xiii) Sitting by the *kohobar*: (a) piece of jewellery (\$10.00-\$15.00) from the bride's family to the married couple. Guests of the bride's father may give gifts at this point too; (b) the bride's mother takes off the *maur* of the groom, and gives him a gift.
- (xiv) At the *maro hilai*: from the bride's father to the groom's father (usually \$1.00-\$1.50).
- (xv) *Moo dekhai*: gifts for "seeing the face": from the guests of the groom's family to the bride when she is brought to the groom's home and sits by the *kohobar* (average gift, \$1.00 each).

Gifts from the guests invited by the bride's father are called *neuta*. They may be given either to the parents of the bride or to the married couple. Gifts to the parents may be presented before the wedding day as enumerated above (ii), or the guest may go up into the house and give it there. All gifts given by or under the *maro* belong to the married couple. Each person gives about \$1.00 and/or something in china or glass ware. The guest may give his gift on any of the following occasions: *dwar puja*, *parchan*, *pau puja*, *kichree*, or by the *kohobar*. Some may divide their gift and give it on more than one occasion. These gifts are noted in a book (which each family keeps for this purpose) and are credited to the donor's name; an equivalent gift will be returned when he has a wedding. (Alternatively the gift would cancel another gift debited against his name since a previous occasion). *Neuta* usually total a soap box or two full of glass-ware and china, and about \$60.00 in cash.

The amounts enumerated above are more typical of the sugar estate area. In the rice-growing area, where more cash is on hand at crop-time, and where there is more emphasis on saving and accumulation of capital, the amounts tend to be much higher.

In the case of a wedding involving two families, both of which are relatively poor and of equally low socio-economic status, one finds that the total amount of the gifts presented to the bridegroom roughly balances the value of the gifts to the bride. These latter are mainly represented by the gold jewellery and the clothes presented at the *dal puja*. In the event of a separation taking place the wife is entitled to keep her clothes and jewellery, and the courts will uphold this right. She will not be able to claim a share of the gifts presented to the bridegroom.

A wedding is the most important social event in the life of a Hindu family, and its size and grandeur is a measure of the family's social prestige. The marriage of the eldest daughter is particularly important because this is the first occasion on which her parents are to demonstrate their ability and intention to put on an appropriately lavish ceremony for the benefit of their friends and neighbours. Men with any claim to prestige in the local community will strain their resources to give a little extra, mainly in the way of increasing the amount of their gifts to the bridegroom in the two

most public ritual presentations: the *tilak* and the *kichree kawan*. In the sugar estate area there is a general occupational uniformity amongst the majority of inhabitants and the domestic economy is based on wage labour rather than on the accumulation of property and the operation of a farm. Here the majority of parents keep the amount of the gifts close to the average figure, so that there is a rough equivalence between the total value of the gifts presented by the family of the bride and that of the groom. In the rice-growing area there is a greater range of prestige differences as between families, such differences being based upon wealth. This does not result in a hierarchy of statuses connected with offices within a single community, but it does introduce an element of competition for prestige as between different families. One way in which this is expressed is through wedding ceremonies. On the one hand there is a conscious attempt to 'join family' with people of equal or higher prestige by marrying one's daughter to their son. It is partly for this reason that people express a dislike for marrying a person from a sugar estate. If one is able to marry one's daughter to a young man of good social standing, preferably with a steady and prestige-carrying occupation, or from a family with property, then one tries to demonstrate one's social aspirations by presenting more lavish gifts.

We have described the most popular and most common form of marriage ceremony practised by "orthodox" Hindus. It is interesting to note that another form of ceremony known as the *Jai Mal* is sometimes practised as an alternative. In the *Jai Mal* ceremony no *tilak* is given, no *maro* is put up, and the groom wears no special garment or head-dress. The groom's party come to the bride's home and after prayers and vows before the pundit, the couple garland each other. There is no *dwar puja*, *pau puja* or *kichree*. *Jai Mal* is therefore a quiet, inexpensive form of wedding, and is also halloved by tradition, for it is said that Ram married Sita by *Jai Mal* rites. Yet this ceremony is exceedingly rare; its rarity emphasizes the positive value of the conspicuous consumption of the *maro*-type ceremony.

In a short paper intended as a presentation of ethnographic data these concluding remarks do not "interpret" the data. This depends upon a much fuller analysis of social structure and social change, which it is hoped to publish at a future date.

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Notes on Depreciation

By

DAVID WALKER

These notes are written with some hesitation. They are stimulated by the interesting paper by Messrs. Huggins and Chang (2) which appeared in a recent issue of this journal and which is felt to be rather misleading in some very important respects. The writer is conscious, however, that he is not familiar in detail with the way the West Indian Governments treat depreciation for tax purposes^a and he feels that Messrs Huggins and Chang may be able to defend their position by appealing to West Indian practice. (The writer also feels that he may not have fully understood the mathematical sections of the paper). The article does claim, however, to be of wider and more general significance — for example, U.K. tax legislation is mentioned — and it is on this basis that the following criticisms are offered.

Messrs. Huggins and Chang are interested in the relationship between depreciation allowances and the level of investment. They consider, quite rightly in my view, that "higher depreciation allowances made at the expense of distributed profits tend to reduce consumption expenditure and so to encourage investment" (2, p. 175). The purpose of their article is to compare the effects of three different methods of apportioning capital costs over the life of an asset — straight line, declining balance, and sinking fund methods — in a firm or economy in which investment is growing at a constant rate so as to see which method produces the greatest aggregate amount of depreciation allowances. The upshot of their analysis is that "from the point of investment policy there is much to be said for a preference for the straight line method" (2, p. 176). The authors also study the effects of initial allowances and are able to conclude that "straight line allowances lead to higher accumulations than the reducing balance allowances even when the latter have a 10 per cent initial allowance; even when the reducing balance method has a 20 per cent initial allowance the straight line allowances catch up by the fifth year" (2, p. 176).

In my view both these claims are false and the reason why Messrs. Huggins and Chang have reached wrong conclusions is that they have not properly understood how the reducing balance method of depreciation and initial allowances operate in practice^b.

^aAny knowledge I possess has been gained by a study of the Hicks Report (1) and the Symposium on it published in this journal (3).

^bI propose to leave out the sinking fund method from this discussion. I have no objection to the way this method is treated by Messrs. Huggins and Chang.

The calculation of depreciation and obsolescence charges is the normal way in which capital expenditure is allocated to specific accounting periods. A firm when purchasing a capital asset (or an income tax department when deciding about allowances) makes an estimate of its useful economic life and then decides to allocate in some way the cost of the asset over this period.

It has always been difficult to estimate at all exactly the economic life of an asset and therefore to decide the period over which it has to be depreciated. It is even more difficult at the present time in view of the importance of obsolescence relatively to wear and tear considerations but nevertheless a decision has to be made.

There are clearly an infinite number of ways in which the cost of a capital asset can be spread over its expected life. The most simple way to allocate the cost is the so called straight line method in which the same amount is written-off each year. Let us assume that we are considering an asset costing £100 and expected to last ten years. Then in each year $1/10$ th of the cost, £10, would be the depreciation charge. (We have implicitly assumed no scrap value. If it had been expected that the asset would be worth, as scrap, £10 at the end of ten years then £90 would have to be written-off over ten years and the annual depreciation charge would then be £9).

The second method is the reducing balance method in which a certain percentage is computed such that when it is applied to the written down value of the asset produces scrap value at the end of ten years. As no reducing balance rate can write off the cost of an asset completely there is a certain flexibility here. A 25 per cent rate would reduce the written down value to 6 per cent of its cost at the end of ten years and a 20 per cent rate to about 10 per cent of the original cost; the remaining unallocated costs would have to be written off, less any scrap value, in the year of retirement. As we have said there is a certain flexibility, but it is quite wrong to do what Messrs. Huggins and Chang have done which is to take the same 10 per cent rate of depreciation for the straight line method and for the declining balance method. No wonder they comment that the figures "show what a major proportion of the depreciation allocation the obsolescence or balancing allowance makes up"! It is quite ridiculous to compare the depreciation flow of a 10 per cent straight line rate with a 10 per cent reducing balance rate. The correct comparison is between a 10 per cent straight line rate and something like a 20 per cent or a 25 per cent declining balance^a. This is my first and most

^aThe way in which the U.K. Income Tax Authorities determine the appropriate depreciation rate for persons using the reducing balance method is as follows. The Commissioners of Inland Revenue fix the life of the asset. Then there is calculated the rate of depreciation that will produce a written down value of 10% of the original cost at the end of the expected life of the asset. The actual rate of depreciation is then $5/4$ ths of this calculated rate. If n is the expected life of the asset the actual rate is equal to

$$1.25 \left\{ 1 - \left(\frac{10}{100} \right)^{1/n} \right\}$$

Under the U.S.A. internal revenue act 1954, firms, if they use the reducing balance method are entitled to a rate equal to 200 per cent of the straight line rate.

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important criticism of the work of Messrs. Huggins and Chang and, as we shall see, this misconception affects the results and conclusions of their arguments very substantially.

The second major trouble with the analysis of Messrs. Huggins and Chang is the way they treat initial allowances. They do not give the full details of their calculations but, working backwards, it would seem as though they have treated initial allowances in the following way. If there is an initial allowance of 20 per cent, Messrs. Huggins and Chang charge this in the year of purchase. In the second year — and only then — they apply the ordinary annual depreciation charge. Though this may seem the logical thing to do it is not normal U.K. practice (or East African practice). In these countries the initial allowance *and* the annual allowance is given in the first year and in the second year the ordinary annual rate is applied to the written down value of the asset, i.e. its cost minus the initial allowance *and* the first annual allowance. This error in the treatment of initial allowances affects very substantially many of the calculations given in the article under consideration.

Table 1 summarises in numerical form what we have been arguing. It shows the annual depreciation charged by the straight line method and by the reducing balance method in the way it is computed by Messrs. Huggins and Chang and in the "correct" way. It shows at a glance how wrong is the claim that straight line allowances are superior. Whereas with straight line depreciation charges the written down value at the end of five years and eight years respectively is 50 per cent and 20 per cent of the cost of the asset, the written down value with the two comparable declining balance rates (20 per cent and 25 per cent) are 32.8 per cent and 16.8 per cent of the cost of the asset with a 20 per cent declining balance rate and 23.8 per cent and 10 per cent of the cost with a 25 per cent declining balance rate; with initial allowances properly computed, the advantage is even greater.

I have not gone to the trouble of re-doing all the various statistical calculations in Messrs. Huggins and Chang's work but Table 2 brings out the main points. It will be remembered that Messrs. Huggins and Chang are dealing with a firm or an economy in which at first the rate of investment is £100 but which grows by 3 per cent per annum^a. All investment is in assets with a life of ten years. With straight line depreciation the annual depreciation charge will be £10 in the first year (10 per cent x £100), £20.3 in the second (10 per cent x £100 + 10 per cent x £103), £30.9 in the third year (10 per cent x £100 + 10 per cent x £103 + 10 per cent x £106.1) and so on. Similarly the aggregate or cumulative depreciation charge to date at the end of the third year would be £61.2 (£10 + £20.3 + £30.9). Now it is clearly possible to do similar calculations with all the different methods of calculating depreciation. Table 2 provides the results of some such calculations and includes figures worked out on the basis of Messrs. Huggins and Chang's method of dealing with initial allowances and the reducing balance method

^ai.e. 100, 103, 106.1, 109.3, 112.6, 115.9, 119.4, 123.0, 126.7, 130.5.

TABLE 1
DEPRECIATION CHARGE
£ 100 ASSET WITH A 10 YEAR LIFE

Year	Straight Line 10%	Reducing Balance, Huggins & Chang			Reducing Balance, Suggested Method			
		10% Initial and Annual Allowance	20% Initial and 10% Annual Allowance	40% Initial and 10% Annual Allowance	20% Annual Allowance	25% Annual Allowance	20% Annual and Initial Allowance	40% Initial and 20% Annual Allowance
1	10	10.0	20.0	40.0	20.0	25.0	40.0	60.0
2	10	9.0	8.0	6.0	16.0	18.7	12.0	8.0
3	10	8.1	7.2	5.4	12.8	14.1	9.6	6.4
4	10	7.3	6.5	4.9	10.2	10.5	7.7	5.1
5	10	6.6	5.8	4.4	8.2	7.9	6.1	4.1
6	10	5.9	5.2	3.9	6.6	5.9	4.9	3.3
7	10	5.3	4.7	3.5	5.2	4.5	3.9	2.6
8	10	4.8	4.3	3.2	4.2	3.4	3.2	2.1
9	10	4.3	3.8	2.8	3.4	2.5	2.5	1.7
10	10	3.9	3.4	2.6	2.7	1.9	2.0	1.3
10*	—	34.8	31.1	23.4	10.7	5.6	8.1	5.4
Written down value at end of 5 years	50	59.0	52.5	39.3	32.8	23.8	24.6	16.4
8 years	20	43.0	38.3	28.7	16.8	10.0	12.6	8.4

* Obsolescence Allowance.

TABLE 2
DEPRECIATION CHARGE: ANNUAL AND CUMULATIVE * £

	Straight line	Reducing Balance, Huggins & Chang			Reducing Balance, Suggested Method			
		10% I.A. 10% A.A.	20% I.A. 10% A.A.	40% I.A. 10% A.A.	20% A.A.	25% A.A.	20% I.A. 20% A.A.	40% I.A. 20% A.A.
Annual Depreciation Charge.								
Year 5	53.1	43.8	51.3	66.7	72.3	82.3	82.5	92.8
Year 10	115.0	111.4	113.6	117.8	118.2	120.7	121.5	124.6
Cumulative Depreciation Charge.								
Year 5	156.1	137.1	180.8	268.5	241.7	283.8	314.0	386.4

of depreciation and on the basis of the methods I have outlined above. It shows quite clearly that if one compares a 10 per cent straight line method with a properly computed reducing balance method it is most misleading to administrators and politicians to conclude as Messrs. Huggins and Chang conclude that "from the point of investment policy there is much to be said for a straight line method" and that "straight line allowances lead to higher accumulations than the reducing balance allowance even when the latter have a 10 per cent initial allowance; even when the ordinary reducing balance method has a 20 per cent initial allowance the straight line allowance catches up by the fifth year".

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Rejoinder to Professor Walker

By

H. D. HUGGINS and E. R. CHANG

Prof. Walker has made two main points:

- (i) that it is only in the second year that we apply the depreciation charge;
- (ii) that it is false (his paras. 2 and 3) that "from the point of investment policy there is much to be said for a preference for the straight line method".

His point (i) is correct. The initial allowance and the annual allowance should be calculated in the first year. In our calculations we made provision for the initial allowance but did not provide for the annual allowance until year 2 and our figures should be modified along the lines which Professor Walker indicated.

Professor Walker's point (ii) is the more important. It would be a pity if the present argument led to two polarized positions on the question of whether in general the straight line or the reducing balance methods are superior, superiority being measured by the ability to produce the higher aggregate of depreciation allowances. Clearly the legislators can and do enact measures

which in some cases make the straight line method more attractive (e.g. as in Jamaica) and in others the reducing balance. Either method can be manipulated to produce almost any results. Our paper was, however, essentially written with the current Jamaica and U.K. depreciation policy in mind.

A priori one would certainly expect the reducing balance method to produce a faster write-off than the straight line method. If one assumes that the basic conditions to be fulfilled by the method are that an asset of known life shall be written down to scrap value by the end of that life, then the basic percentage to be applied under the reducing balance method will necessarily be higher than under the straight line method and the accumulated depreciation in any year before the end of the life of the asset will be greater under the former method. The relation between the desired rate under the two methods will vary with the life assumed and the scrap value, but for a scrap value of 10 per cent of the initial value the reducing balance rate needs to be roughly twice the straight line rate over a wide range of assumptions concerning the length of life of the asset.

But in fact the relation between the two rates can seldom be seen in isolation from the tax system. Particularly in underdeveloped countries, the depreciation allowances permitted under the income tax law tend to be accepted as accounting and business practice by the operators of businesses. Hence if a relation between the rate of depreciation allowed under the two methods is laid down by tax law or practice, this will confine the choice of rates available. Where the stipulated rate for the reducing balance method exceeds that for the straight line method, but by a proportion less than is *a priori* desirable, then there will probably be cases where the straight line method permits a faster write-off. Where, as appears to be the intention of the Jamaican law, the stipulated rate under the reducing balance method is actually less than under the alternative method, the straight line method must produce a faster write-off and the reducing balance method will require a very heavy balancing allowance at the end of the life of the asset.

It remains true that a businessman who is prepared to base his accounts on his independent judgment of the desirable method of calculating his depreciation can do so. It is an interesting field for further research to investigate what proportion of businessmen do so and what considerations weigh with them, but we were only able to glance at this problem in our original paper.

RESEARCH NOTE

THE JAMAICAN INDUSTRIAL WORKER

The crucial problem of labour supply in an industrializing economy, it is generally argued, is to gain the habitual and willing acceptance by the new industrial worker of the discipline and values of the wage system. Where formerly workers may have enjoyed a wide latitude of choice among the possible combinations of work and leisure, they are now obliged to accept the rigid schedules of work and to adhere to the rather specific standards of performance imposed by the technology of modern factory production. In addition, the location of the factory as well as the style of life required of industrial workers may require them to divorce their connection with rural society to which they previously looked for security in times of personal stress or difficulty. We should, therefore, expect to find among new recruits to industrial work substantial resistance to the destruction of the old habits of work and patterns of living and a reluctance to accept the new.

Such resistance may have serious consequences for economic development. Resistance which takes the forms of frequent or prolonged absence, negligence or inattention to prescribed duties or high rates of turn-over clearly results in underutilization of the potential labour supply and in reduced output. Workers who attempt to maintain, or even strengthen (for example, through land purchases) their connections with the subsistence sector of the economy may fail to exhibit the necessary mobility characteristic of industrial workers in more developed economies.

Whether such a pattern of resistance or lack of commitment to industrial life is characteristic of workers being recruited into Jamaica's developing industries is the question which this study will attempt to answer. The argument and the consequences outlined above have only a very slight empirical foundation, and they do not necessarily apply in every situation where industrialization is taking place. Thus there is a need for description of the patterns that actually emerge during industrialization, and for analysis of the factors that contribute to their particular characteristics.

Two lines of approach to understanding the processes involved in the industrialization of the Jamaican labour force are being followed in this study. One approach which, at the time of writing, has nearly been concluded is an informal survey among employers, trade unionists, government officials and others, to obtain observations on recent experience with labour recruitment and utilization in the island's industries. Both old, established industries as well as newcomers have been covered in this survey. The observations obtained from the discussions with the representatives involved have already

contributed to the development of some tentative hypotheses, and should be useful later in interpreting data from other sources, such as censuses of population and special industrial surveys.

The second approach consists of an intensive case-study of the experience at the Kirkvine Works of Alumina Jamaica, Ltd. In terms of the objective of the study, this company has several advantages: mining and production facilities are located in an area previously untouched by manufacturing, including sugar; productive facilities are highly capitalized and the technology is complex, requiring a relatively high degree of skill and worker responsibility; and, finally, the company appears to pursue a modern employer-employee relations policy. As a result of the interest and co-operation of the company's officers and employees and of representatives of the National Workers' Union, access to necessary records has been made available and contacts with a representative group of hourly-paid workers have been established.

Data on the experience of the company's workers are being obtained from two sources. First, the record of each hourly-paid worker who, during the period 1953-1957, voluntarily terminated his services or was discharged for cause, is being studied and analysed. The analysis should show whether these workers exhibit any significant social or occupational characteristics suggestive of difficulty in adapting to the requirements of industrial work. Tabulations against the various reasons for voluntary separation or discharge are being made against such variables as age, marital status, occupation, length of service, standard of education and previous industrial experience.

The second source of information is a systematic sample of 101 hourly-paid workers, representing about 12 per cent of the current hourly payroll. Information similar to that described in the preceding paragraph is also being extracted from the personnel records of these workers. In addition, absences, by reason for absence, and warning notices, by type of disciplinary infraction, are also being recorded for analysis. This information will be complemented by a personal interview with each member of the sample, during which an attempt will be made to secure a complete work history, a record of the labour force status of other members of the workers' household, an estimate of living patterns and standards, and a history of major expenditures since employment with the company.

The information secured by the records analysis and through the interviews is expected to be supplemented by informal discussions with company and union officials, including foremen and union delegates, and with various members of the local community in which the company operates. Field work should be completed by June 1958, and the analysis and report of results should follow later in the year.

Robert L. Aronson

BOOK REVIEWS

Comparative Economic Organization. By A. R. Burns. Prentice Hall, New York, 1955, (pp. xv + 766).

Professor Burns points out in his preface that comparison between countries "illumines economic problems that are universal", and "focuses attention on the variety of ways in which man has attempted to solve these problems". His book succeeds admirably in this illumination and focus, and indeed his successive chapters might well form a model for the realistic and comprehensive study of economic activity. He starts, logically, with a comparison of the measurable economic welfare of the different countries, bringing out the wide, and probably widening, differences in their wealth per head. The explanation of these differences is then, in part two, sought in differences of industrial and agricultural production, including the size, scope and co-operation of productive units and the relevant state policy. Part three compares the resources lying behind this production. Natural resources (minerals, land and water) labour and capital are systematically analyzed as to their total potential supply, the proportion of this supply actually utilized and the productivity of this proportion measured in allocation to various uses and in intensity of use. Part four compares the authoritarian and market "integration" of resources and the monetary organization involved; part five the consumption and the distribution of wealth, including the welfare policies of the different countries.

The model set up by Professor Burns may, it is true, be criticized in details. There is a strange omission of trade and services though they are as much part of economic organization as agriculture and industry, and perhaps a still stranger omission of the uniformities in the location patterns of similar industries, comparing one country with another. Among types of resources little is said specifically of enterprise and management. Nor is it easy to pick out the problems specific to particular types of economy. One excellent chapter, 23, on the "Integration of Production: International" distinguishes policies in five types of society: "primitive", "agrarian", "capitalist", "socialist" and "underdeveloped in process of development". This analysis might usefully have been expanded to show in greater precision the features common to countries of similar type and the features differentiating the types. Indeed, there is little attempt to induce by the comparative method any laws of correlation between performance and types of economy. Readers of this journal, for instance, interested in underdeveloped countries will find it difficult to bring together the main problems and national ways of solving the problems of that type of economy, though most of the problems are duly mentioned somewhere in the book. The high risk of capital investment (and consequent

high interest rates) is discussed on pages 436-7, the low quality of labour on pages 385-6 and the absence of external economies on pages 496. The population pressure is particularly well treated on pages 323-337; and a complete chapter (26) sums up international plans, such as Colombo, Point Four and the projects of the International Bank, to help solve underdevelopment. Because of the omission of services, however, no mention is made of the development of the tourist trade, so important to the West Indies.

Professor Burns is writing for students (may we echo the hope of his preface, that "students of economic theory can be persuaded to make use of the book"?), and he mainly reports and sums up, without much critical comment, the publications of others, including national and international documents. He makes a judicious selection of tables and diagrams, and must be congratulated in resisting the modern fear of footnotes of sources. All the same, it would have been useful to include authors and authorities in his index. As matters stand, the only persons indexed are Darwin, Malthus, Marx, Ricardo, Adam Smith, and Harry S. Truman. There is a list of references but it is not possible to find where exactly they are referred to in the text. Since the book is a comparison between countries it would also have been useful to index the countries. Admittedly the index would be long but it is a long book, full of important information. And it seems to me American students are adult enough to use and assess references, instead of just memorizing page-to-page assignments.

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The Investigation of National Income in British Tropical Dependencies. By A. R. Prest. Institute of Commonwealth Studies, 1957.

National Income 1951-54. Government of Trinidad and Tobago. Central Statistical Office, Trinidad.

Tables on the National Income and Expenditure of Jamaica, 1953-1955. Department of Statistics, Jamaica.

In the first part of this essay Dr. Prest sets out a very clear summary of the concept of national income studies, the significance of this type of study, and its value for administrative and planning purposes.

Dr. Prest describes the development of national income techniques in Western countries and shows how the estimates, started mainly as an academic exercise, have become increasingly used by governments for the analysis of income distribution, capital formation, saving and investment and for budgeting and taxation policy-making. In industrial countries estimates are being increasingly used by businessmen for assessing market situations.

Can estimates be of equal value in underdeveloped countries? Dr. Prest thinks so and cites, as examples, the uses made of such data by the govern-

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ments of these territories, by the International Bank and by the Colonial Office. Regional estimates are seen to be of particular value to federal governments, in making decisions regarding the allocation of taxation and subsidies between the units concerned. The importance of detailed sector accounts to government will depend on how far the government concerned is active in promoting economic development in the country.

Certain difficulties are emphasized in underdeveloped countries. Dr. Prest mentions the problem of measuring subsistence production, the importance in the economy of large expatriate enterprises, and the haziness of the borderline between capital and consumer goods in some underdeveloped countries. A further problem which could be added to this list, is that of obtaining accurate and regularly prepared basic statistics on which national accounts can be based. In many young countries, the standard of such statistics is rapidly being improved, and although this means that estimates can be more accurate, it brings with it another problem, that of maintaining continuity in the time series.

Dr. Prest then outlines some of the achievements of colonial national income measurement, beginning with the pioneer work of Benham and Phyllis Deane. This work, as in industrial countries, was initiated from the academic rather than from the official sphere. Many British tropical dependencies, however, are now making national accounts estimates on a governmental basis. For smaller countries these are likely to be of a very summary kind, showing the main aggregates only.

Dr. Prest puts in a plea for a fairly elastic approach to sector analysis. He sees a danger in the wholesale transference of the "input-output" approach from industrial economies. In a young economy some specific sector may be of more interest than others and may be worth more detailed study. Such "sectors" may not get into the established form of sector accounts but may highlight the activities of a given industry or a given community.

It is interesting in the light of Dr. Prest's observations to examine recent national income reports put out by two West Indian governments. These reports are: *National Income 1951-54* issued by the Government of Trinidad and Tobago and *Tables on National Income and Expenditure 1953-55* issued by the Jamaican government Department of Statistics.

The presentation of the main tables in both these studies follows closely the form laid down by the United Nations (see U.N. statistical papers, series F No. 208). This is particularly so of the Jamaican study which presents tables and accounts closely following the U.N. pattern. The appearance of these studies produced by the colonial governments themselves is an important milestone in this work, because the uniformity of a basic set of accounts by government has a number of advantages.

Firstly, governments are under pressure to produce statistics which are up to date. This can more easily be done when a system of estimation is laid

down and followed by the statistical department concerned, and which prohibits too much "experimentation" in new methods which may delay ultimate publication. Secondly, politicians and civil servants can easily learn to interpret accounts which are set out on a basic pattern even if they are not trained economists. Thirdly, accounts published by different territories can more easily be aggregated and compared if a set form is followed. This is particularly important in federal regions.

Although a set form is thus recommended for use by governments, certain shortcomings arise from the use of the U.N. form of accounts by mainly agricultural countries. In many cases a small modification to the items in the accounts would overcome these shortcomings. To give but two examples: firstly, the value imputed to subsistence production should be shown both in the Domestic Product Account and in the National Income Account. Secondly, the item "net factor income from abroad" should not be shown as a net figure. Factor incomes earned in a young country by factors owned overseas are generally composed mainly of the profits of expatriate capital operating in the country. This item is often one of considerable importance and should be shown separately. On the other side, factor incomes earned overseas by residents of the country concerned, are usually dividends and interest on overseas investments held by local firms and individuals, and may in comparison be low. Such adjustments to the form of the accounts would be possible in order to cater for the particular condition of the underdeveloped country, without detracting from value of uniformity of government-prepared national accounts.

This, however, is not to ignore Dr. Prest's suggestion that particular sectors may in one country demand particular attention. Work on special aspects of the economy can where possible be carried out by government, but should not detract from the government's main purpose of publishing regular, up-to-date standardized accounts. There is also much scope for further academic work in the spheres of improving source material, detailed analysis of particular sectors and final appraisal of national income estimates. The academic world pioneered national income estimates both in industrial and in colonial countries. The preparation of accounts on a government basis enlarges rather than diminishes the scope for further academic research.

The Trinidad study has been prepared by the government statistical office and it is certainly one of the most carefully prepared and presented reports of this kind yet produced. It seems unlikely that such a detailed report could be produced each year, but it is to be hoped that the main tables will be carried on into the following years, so that a time series can be obtained. One of the interesting features of this report is a series of diagrams which illustrate strikingly the recent changes in the economy. It is unfortunate that, since the report was not available until mid-1957, figures for 1955 and perhaps rough estimates for 1956 could not be included. The Jamaican study, on the

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other hand, sacrifices detailed description and interpretation in order to bring out up-to-date figures, and for government purposes this is presumably a worthwhile sacrifice.

Both reports show an increase of national income approximating to 8 per cent per annum in current values. Approximately a third of this increase is probably due to real increase rather than price rises. The Jamaican economy particularly gives an impression of buoyancy, not only because of the increased income from the large export industries but because of the variety and growth of domestic industries. Here lies perhaps one of the greatest justifications for the publication of national income studies (when the picture is a good one!) and that is the advertising function they perform for the young expanding economies to obtain even more business, and attention from overseas investors.

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WELLCOME MEDAL

This Journal received with pleasure the news that Dr. George Simpson has received the Wellcome Medal for Anthropological Research for 1957 for his monograph, *Jamaican Revivalist Cults*. Readers will remember that this monograph appeared as the issue Vol. 5, No. 4 of SOCIAL AND ECONOMIC STUDIES.

The study was done during 1953-54, when Dr. Simpson, on sabbatical leave from his duties as Head of the Department of Sociology and Anthropology at Oberlin College, Ohio, was associated with the Institute of Social and Economic Research.

We warmly congratulate Dr. Simpson on this award, which we feel has brought distinction to the Journal.

NOTES ON CONTRIBUTORS

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